St. Malachy CATHOLIC SCHOOL
An Independence Mission School

Greetings Middle School Families,

Welcome to the 2023-2024 school year! We are looking forward to supporting and challenging your students in their academic, spiritual, and social-emotional growth. The following document includes important contact information for our Middle School Staff as well as our classroom visions for equity, and the full St. Malachy Middle School Vision.

Our **Middle School Team** this year is composed of Ms. Walace, Mr. Roccaforte, and Ms. Day:

- **Ms. Kahliyah Walace**
  - Social Studies and Science
  - 6th Grade Homeroom
  - kwalace@stmalachyphila.org

Hello to my fellow Malachy Students and Families! I can not describe in words how excited I am to be your science/social studies teacher. As we approach the incoming school year it is an honor to get to know you,we will engage in exciting topics along with projects. This year is officially my first year as a teacher, which is followed by many more years to come. This year our content will come from Amplify, which is a fun way to keep scholars engaged. As I stated above I am so excited to work with you, I can't wait to meet you.

- **Mr. Roccaforte**
  - Mathematics
  - 7th Grade Homeroom
  - zroccaforte@stmalachyphila.org

Greetings St. Malachy Middle Schoolers. This will be my fourth year teaching at St. Malachy. I am so excited to continue getting to know your scholars as they grow. I look forward to making mathematics a fun wonder for all of us. Our Eureka Math curriculum will guide our explorations across many math topics. In 6th and 7th grade we will start out learning about ratios, and our 8th graders will start learning about exponents. I am thankful and honored to be able to work with you.

St. Malachy CATHOLIC SCHOOL
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- **Ms. Day**
    - Lead Middle School Teacher/English Language Arts
    - 8th Grade Homeroom
    - mday@stmalachyphila.org

Hello Middle School Families! I am so excited to be entering my seventh year of teaching ELA at St. Malachy and can't wait to embark on the new academic school year with your scholars. This year we will focus on a variety of topics, starting with Greek Mythology (6th Grade), The Refugee Experience (7th Grade), and Folklore of Latin America (8th Grade). I am excited for all this year has in store for us, and look forward to working with all of you.

St. Malachy CATHOLIC SCHOOL
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Summer Work for Students going from Grade 5 to Grade 6

Dear St. Malachy Families,

Thank you again for your incredible partnership, hard work, and support throughout this past school year. Schools and students across the country faced challenges this year, and as always the St. Malachy community rose to the occasion, worked together, and accomplished something great. It wasn't always easy, it wasn't always pretty, but it was effective and impactful for our students and our classroom communities. Our students continued learning and working hard through the very end of the school year. We are so proud of them and grateful for you and our teachers.

We know that, more than ever, it is important this Summer that students be provided with learning opportunities and enriching activities. We know Summer is also a time for families to relax, spend time with friends, read books you love, find a new series, or learn a new skill. We hope you will find the work enclosed engaging, enriching, and interesting, so that your scholar remains intellectually stimulated while also making space for family life.

We recommend you designate a time for your scholar to work on their Summer Work Assignments a few times a week. Also, we recommend you let your child see you reading along with them or just enjoying a great book by yourself!

Directions for Families:

- Please complete as much of the Summer Work Packet as you can.
- In September, the first 100 students to submit completed Summer Work Packets will receive a free gift!

Contents:

1) Summer Reading (Grades 3-8 Only): In addition to the ELA Activities, please see the directions for the Summer Reading.
2) ELA Activities: Please complete the attached reading activities. This includes about 10 days worth of activities, so you may want to consider completing 1-2 per week.
3) Math Conceptual Activities
4) Math Fluency Activities

Thanks for All you Do,
The Team at St. Malachy

Summer Reading:

Students Entering Grades 3 or 4:

Please select and read at least two of the books from the Recommended Reading List. These books will build background knowledge for our first ELA Unit of Study in the Fall. Use the Reading Log attached to process the book by completing the Task after Reading. (Once you finish the two books you selected, you are welcome to keep reading and log your reading here!)

Summer Reading
for Students Entering Sixth Grade

Required Reading: *The Hunger Games by Suzanne Collins*

Suggested Reads (Please read at least **one** from this list):

- *Wonder*- by R.J. Palacio
- *Fish Girl* -- David Weisner
- *Flawed Dogs* -- Berkely Breathed
- *Masterminds* -- Gordon Kormon
- *Horizon* -- Scott Westerfeld
- *The War the Saved my Life* -- Kimberly Brubaker Bradley
- *The Girl who Drank the Moon* -- Barnhill
- *Lockwood & Co Screaming Staircase* -- Jonathan Stroud
- *Shadows of Sherwood* --Kekla Magoon
- *11 Birthdays* – Wendy Mass
- *Airborn* - Kenneth Oppel
- *Almost Astronauts* - Tanya Lee Stone
- *Baseball Great* – Tim Green
- *Beacon Street Girls* - Annie Bryant
- *Brown Girl Dreaming* - Jacqueline Woodson
- *Bridge to Terabithia* –Katherine Peterson
- *Cosmic* - Frank Cottrell Boyce
- *Dark Life* – Kat Falls
- *D'Aulaires Book of Greek Myth* - Ingri d'Aulaire and Edgar Parin d'Aulaire
- *Dragon Slippers* – Jessica Day George
- *Drizzle* – Kathleen Van Cleve
- *Everything on a Waffle* – Polly Horvath
- *Gossamer* - Lois Lowy
- *Invisible Inkling* – Emily Jenkins
- *Joan of Arc* - Diane Stanley
- *King Arthur* – His Knights and Their Ladies
- *Magic Half* – Annie Barrows
- *Maniac Magee* – Jerry Spinelli
- *Max Cassidy, Escape from Shadow Island* – Paul Adam
- *Peace, Locomotion* - Jacqueline Woodson
- *Secret Life of Ms. Finkleman* – Ben H. Winter
- *Swindle* – Gordon Korman
- *The Boy Who Saved Baseball* - John Ritter

Grades 5-8 Reading Log: June

Date	I read with parent / alone	Book	Pages	Task After Reading	Parent Signature / initials
				Connection (text-self)	
				Summary	
				New Vocabulary Word + Definition	
				Summary	
				Character Analysis	
				Connection (Text-to-Text)	

				Summary	
				Prediction	
				Connection (Text-to-World)	
				Summary	
				Illustration of a scene you visualized	

July Reading Log

Date	I read with parent / alone	Book	Pages	Task After Reading	Parent Signature / initials
				Connection (text-self)	
				Summary	
				New Vocabulary Word + Definition	
				Summary	
				Character Analysis	
				Connection (Text-to-Text)	

				Summary	
				Prediction	
				Connection (Text-to-World)	
				Summary	
				Illustration of a scene you visualized	

August Reading Log

Date	I read with parent / alone	Book	Pages	Task After Reading	Parent Signature / initials
				Connection (text-self)	
				Summary	
				New Vocabulary Word + Definition	
				Summary	
				Character Analysis	
				Connection (Text-to-Text)	

				Summary	
				Prediction	
				Connection (Text-to-World)	
				Summary	
				Illustration of a scene you visualized	

Summer READING PROJECT

Creating a File Folder Book Report

Name _____

Summer READING PROJECT

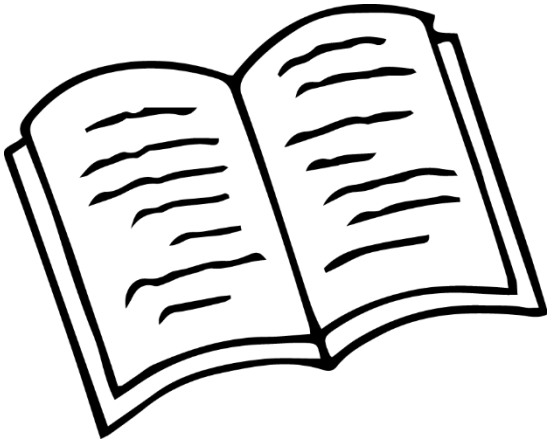
FILE FOLDER BOOK PROJECT

ABOUT

Over summer vacation you're required to read one book (of course you can read many more), and create a File Folder Book Project! Your File Folder Book Project will include a creative representation of the book's cover, a plot diagram, character chart, setting profile, theme analysis, personal reflection, and a listing of other books by the same author.

While reading the book, you will be completing first draft pages that require you to make note of the novel's plot, characters, setting, theme, and your personal reactions to the novel. Then, you will write final copies of each project element and assemble them in a file folder.

Your work on each element of the File Folder Book Project will showcase your understanding of the book you read. Your final project should be creative, detailed, insightful, and created with care!



EVALUATION

Your final project will be graded on your work on the first draft materials AND the quality of your work on the final File Folder Project. Check out the rubric to see exactly how your project will be evaluated. You should showcase your understanding of the novel and your creativity when completing the project.

ELEMENTS

Your file folder will include the following:

- A picture of the book's cover (illustrated by you or found on the internet)
- A plot diagram
- A character chart
- A setting review including an illustration (either by you or from another source)
- A theme analysis
- A personal reflection (over 12 sentences long)
- A listing of other books by the author of the book you read

MATERIALS

To complete your File Folder Book Project, you'll need:

- A book to read (something appropriate for your reading level)
- This packet filled with the directions, pre-write activities, and rough drafts
- A set of the final copy pages that you will be placing inside your File Folder Book Project
- A manila file folder
- Scissors, glue, colored pencils, and other decorative elements

Name _____

FILE FOLDER BOOK PROJECT GRADING RUBRIC

	4	3	2	1
Required Elements	The final file folder project includes all the required elements of the assignment as well as additional information.	All required elements are included.	All but one of the required elements are included.	Several required elements are missing.
Content	The project reflects deep understanding and accuracy regarding the book.	The project reflects understanding and accuracy regarding the book.	The project reflects some understanding and accuracy regarding the book.	The project reflects little understanding and accuracy regarding the book.
Originality	Several of the elements of the final product reflect an exceptional degree of creativity and originality.	Several elements reflect student creativity in their creation and/or design.	Few elements reflect student creativity in their creation and/or design.	No evidence of creativity and originality.
Attractiveness	The final project is exceptionally attractive in terms of design, layout and neatness.	The final project is attractive in terms of design, layout, and neatness.	The final project is acceptably attractive, though it may be a bit messy.	The final project is distractingly messy or poorly designed.
Grammar, Mechanics, and Spelling	Grammar, mechanics, and spelling are correct throughout the project.	There are one – two errors in grammar, mechanics, and spelling.	There are three errors in grammar, mechanics, and spelling.	There are four or more errors in grammar, mechanics, and spelling.

TOTAL: First Draft Packet _____/15 + File Folder Book Project _____/20= _____ / **35**

Summer READING PROJECT

FILE FOLDER BOOK PROJECT

STEPS

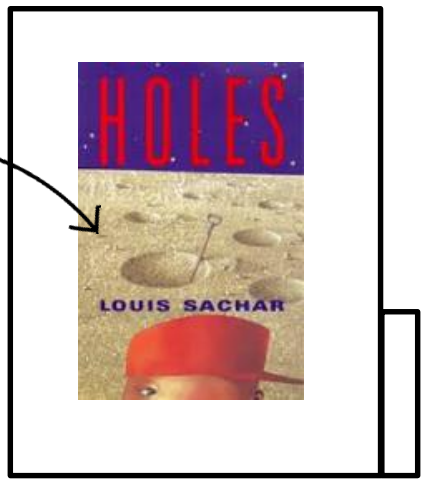
1. Select a book to read that is at your reading level.
2. While reading your book, make notes about the novel's plot, characters, setting, theme, and your personal reactions to the book. Make your notes on the FIRST DRAFT pages.
3. After you have finished your book and completed all of your FIRST DRAFT pages, review your work. Check your work for accuracy, spelling, mechanics, and grammar. Find ways to improve your first draft pages. Remember, your work on the FIRST DRAFT will also be graded.
4. Begin working on your FINAL COPY pages. Write neatly. Do your best work!
5. Assemble your File Folder Book Project.
   - You will need:
     - Your FINAL COPY pages
     - A file folder
     - Glue
     - Scissors
     - Any pictures you plan to include (For example: the book cover, other books, a scene from the book)
     - Art Supplies to "jazz up" your project (markers, glitter, stickers, colorful paper)
   - Follow the template for how to put together the file folder.
6. Review your File Folder Book Project. Make sure that it is free from errors and represents your best effort.
7. Place your FIRST DRAFT materials inside of the file folder. Bring your File Folder Book Project back to school on _____.

Summer READING PROJECT

How to assemble the FILE FOLDER BOOK PROJECT

FRONT COVER

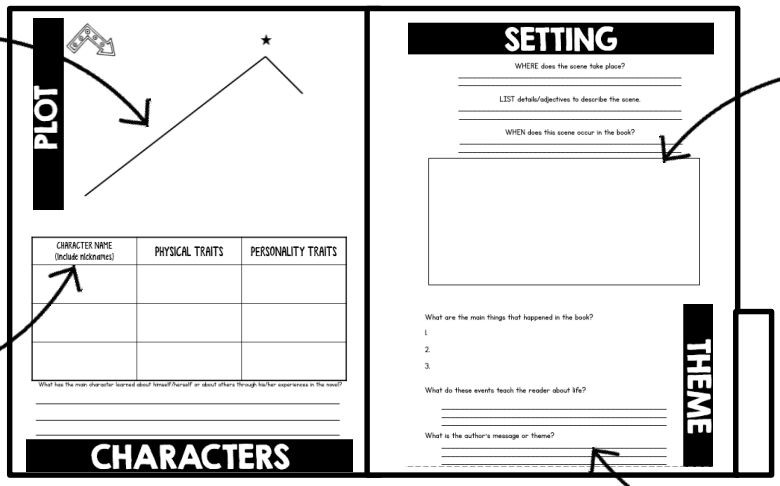
Book Cover Design



INSIDE

Plot Diagram

Character Chart

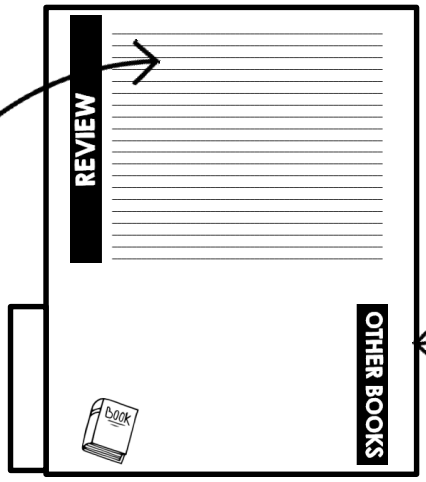


Setting Description & Picture

Theme Analysis

BACK COVER

Personal Review



Listing of Other Books by the Same Author

First Draft
MATERIALS

In your File Folder Project you will be charting 10 major plot events from the novel. While reading your book, list the plot events below in sequential order (number one should be an event from the beginning of the book and number ten should be an event at the end of the book). Then, complete the first draft of the plot diagram on the next page.

1.

2.

3.

4.

5.

6.

7.

8.

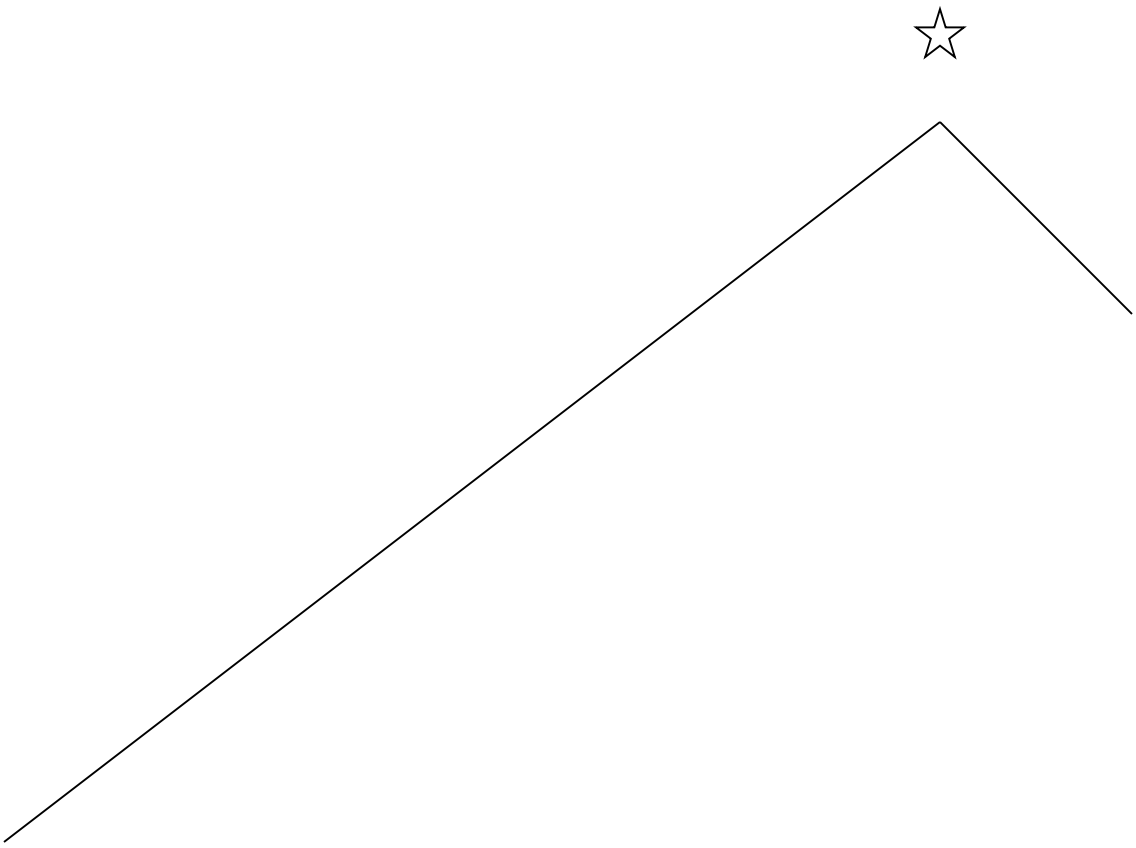
9.

10.

Now...place a star next to the most exciting part of the novel. This will represent the **climax** of the story. It usually occurs toward the end of the novel.

PLOT DIAGRAM

Plot the ten events on the diagram below. This diagram will be your first draft. The event that you put a star next to will be the climax of the story. The events leading up to the climax will be the rising action of the plot. After the climax, the remaining events will be the resolution or falling action.



NEXT STEPS:

- Review the spelling and punctuation of the plot diagram.
- Transfer the information from the first draft onto the final copy plot diagram provided to you.
- Glue the final copy of the plot diagram to the inside of the folder – left side, top of the folder.

CHARACTERS

Choose three significant characters from the book. Complete the chart below. List the characters' names (include nicknames if applicable). Fill in the physical traits section of the chart with information about the way characters look and dress. The personality traits section of the chart should include what the character acts like.

CHARACTER NAME (include nicknames)	PHYSICAL TRAITS	PERSONALITY TRAITS

Answer the following question.

What has the main character learned about himself/herself or about others through his/her experiences in the novel?

CHARACTERS

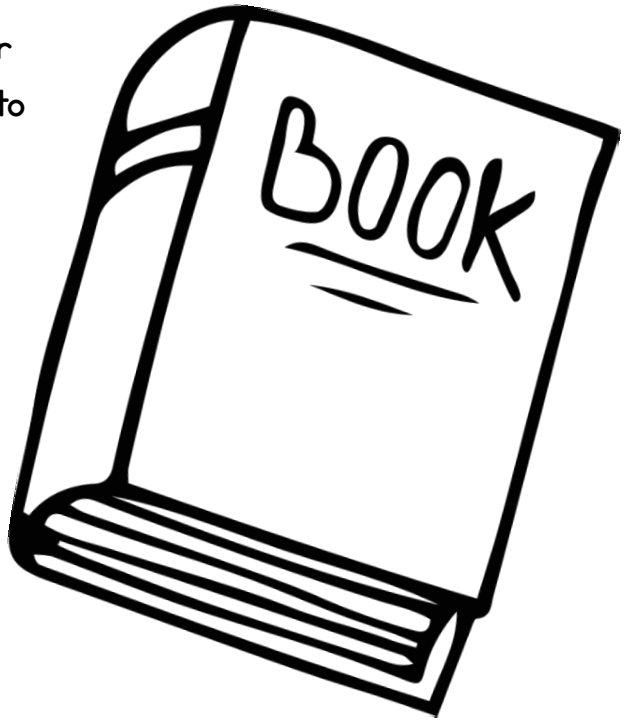
NEXT STEPS:

- Take a look at the character traits that you included in the chart. Are there any words that can swapped out for more more advanced vocabulary? Is it possible to add even more traits for each character?

- Review the spelling and punctuation of the first draft character chart and short response question.

- Transfer the information from your draft to the final copy character chart provided for you.

- Glue the final copy of the character chart and short response question to the inside of the folder – left side, bottom of the folder.



SETTING

Select a memorable scene location from the book (examples – bus stop, friend's house, park, desert).

WHERE does the scene take place?

_____

_____

LIST details/adjectives to describe the scene.

_____

_____

WHEN does this scene occur in the book?

_____

_____

For the final file folder you will need to include a picture or illustration of the scene you described above. Here are some options for the scene picture:

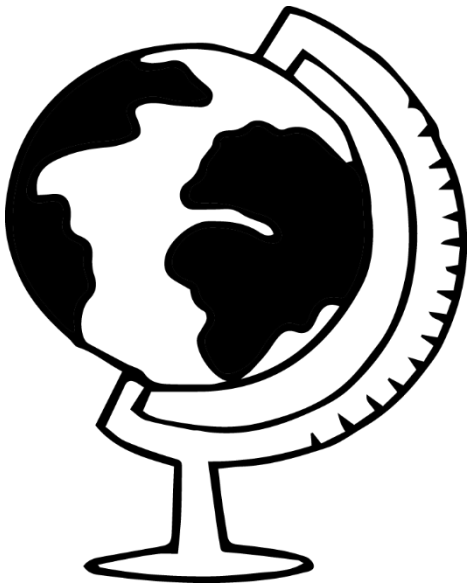
- Draw the scene.
- Print a picture to represent the scene location.
- Cut out magazine pictures to represent the scene location.

The box below represents the amount of space you will have for the scene picture. Practice or plan out your illustration below.

SETTING

NEXT STEPS:

- Take a look at your plan for the setting picture. You'll want to make this image visually appealing. Consider ways to make it colorful and bold.
- Review the spelling and punctuation of your answers in response to the questions about the setting.
- Transfer the information from your draft to the final copy setting space provided for you.
- Glue the final copy to the inside of the folder – right side, top of the folder.



THEME

When you have finished reading your book, you can complete this page in your FIRST DRAFT packet.

You need to determine a theme for the book. The theme should be a lesson or message that applies to the world (not just the story). It's what the author wants the reader to learn about life.

To determine the theme consider:

What are the main things that happened in the book?

1.

2.

3.

What do these events teach the reader about life?

_____
_____
_____

What is the author's message or theme?

_____
_____
_____

THEME

NEXT STEPS:

- Review the spelling and punctuation of the first draft of your theme analysis.
- Transfer the information from your draft to the final copy theme analysis space provided for you.
- Glue the final copy to the inside of the folder – right side, bottom of the folder.

REVIEW

It's time to get reflective about the book you read. Answer the following questions in a very thoughtful and detailed manner. Restate the question in each of your responses.

1. What were your feelings after reading the opening chapter(s) of this book? After reading half of the book? After finishing the book?

2. Did the book make you laugh? Cry? Smile? Cheer? Explain your reaction or add your own.

3. What connections are there between the book and your own life? Explain.

4. What are the best parts of the book? Why?

5. What are the worst parts of the book? Why?

6. Do you like the way the book ended? Why or why not?

7. Rate the book between 1-10 (ten being the highest). Explain your rating.

REVIEW

Now, combine your answers to the personal reflection questions 1-7 to create a well-developed paragraph. Practice below.

FYI - At least twelve well-written sentences need to be included.
The lines below represents the amount of space provided for the review. If you run out of room add an additional piece of paper and tape it to final copy paper provided for you.

NEXT STEPS

- Review the spelling and punctuation of the first draft review above.
- Transfer your writing to the final copy review paper provided for you.
- Glue the final copy to the back of the folder along the top.

OTHER BOOKS

List other books written by the same author as the book you just read.

Here are some ways to locate the titles of other books:

- Look for other titles listed in the book.
- Go to the library.
- Search the internet.

Be sure to use the correct capitalization and punctuation rules when writing each title.

List the titles below:

NEXT STEPS

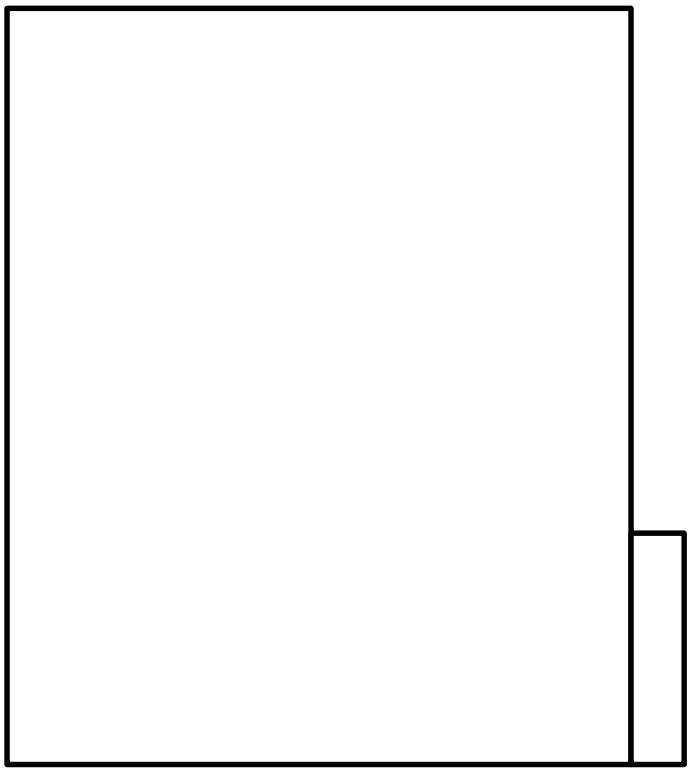
- Review the spelling, capitalization, and punctuation of the titles above
- Transfer the listing of titles to the "other books" space provided for you.
- Glue the final copy to the back of the folder along the bottom.

FRONT COVER

The front cover of your project should be bold, creative, and high quality. It must include the book's title and author.

Brainstorm ideas for your project cover design below. You may want to try to get an image of the book cover from the internet, draw your own illustration, or design a new cover. Feel free to add other images that relate to the novel, decorations, and creative elements to the cover.

COVER BRAINSTORM:



NEXT STEPS:

- Make sure you have a creative design for your front cover.
- Assemble the materials you will need and then design your project's front cover.

TIPS & TRICKS

- SAVE this PACKET! After you complete your Summer Reading Project, stick this packet inside your folder and turn it in with your File Folder Project. The completion of this packet is also part of your grade.

- Remember that your Summer Reading Project will be your teacher's first impression of you at the start of the next school year, so make sure to showcase your best effort.

- Try to complete this project throughout the summer. Spread out the assignments and tasks. Trying to complete your reading, the drafts, and the final copy only days before it's due would be a major undertaking.

- Don't be afraid to put a creative spin on your project. Add color, pictures, and decorative elements to take your project to the next level.

- Read through all of your final copy elements to make sure that your grammar, mechanics, and spelling are correct.

- If you run out of room to write any of the final copy materials, continue your response on another piece of paper. Then, attach your paper to the file folder.

- You're welcome to type any or all of the elements of this project. You'll just want to size your typed worked so that it fits in the folder correctly.

- Don't let this project limit you to reading only one book this summer. Read a bunch of books!

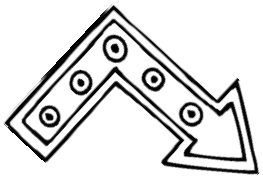
FINAL COPY MATERIALS

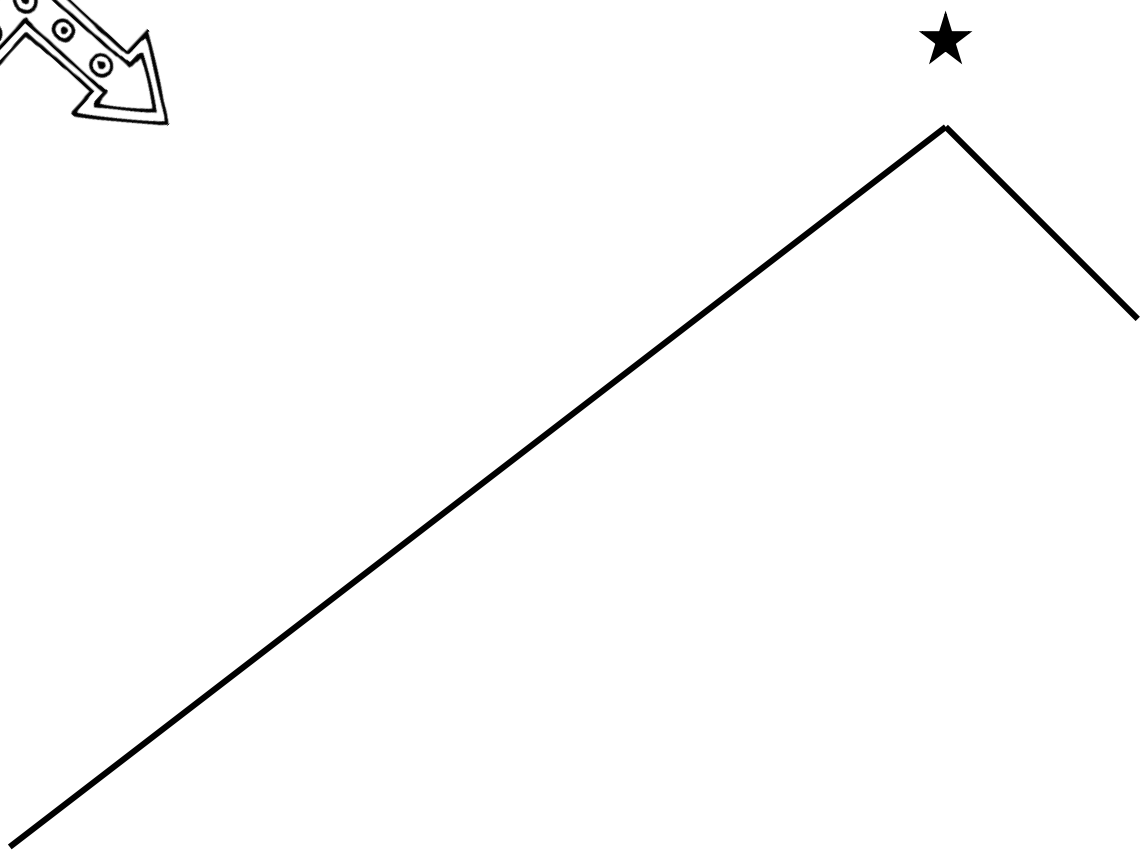
BRAIN WAVES INSTRUCTION

Final Copy
MATERIALS

Cut out each file folder element by cutting along the dotted lines of each shape. You'll want to be sure to include the words Plot, Characters, Setting, Theme, Review, and Other Books when cutting out the shapes. Glue each shape into its specified location on your file folder.

PLOT





Use your first draft brainstorm to complete the character chart and question below. Since this is your final copy, be sure to write neatly. Then, cut out the shape along the dotted lines. Glue the shape under the "Plot" shape on the inside of the folder - left side, bottom.

CHARACTER NAME (include nicknames)	PHYSICAL TRAITS	PERSONALITY TRAITS

What has the main character learned about himself/herself or about others through his/her experiences in the novel?

CHARACTERS

Use your first draft brainstorm to fill in the setting details on the lines provided. Then, draw or add a printed picture that represents a significant setting from your book. You may want to add labels to take your illustration to the next level. Finally, cut out the setting shape and glue it inside your project folder – right side, top.

SETTING

WHERE does the scene take place?

_____

_____

LIST details/adjectives to describe the scene.

_____

_____

WHEN does this scene occur in the book?

_____

_____

Use your first draft brainstorm to fill in the theme details below. Then, cut out the theme shape and glue it inside your project folder – right side, bottom.

What are the main things that happened in the book?

1.

2.

3.

What do these events teach the reader about life?

_____
_____
_____

What is the author's message or theme?

_____
_____
_____

THEME

Write you're a final copy of your personal review below. Then, cut out the shape. Finally, glue the shape to the back of the folder along the TOP.

REVIEW

Use the listing of books by the same author that you compiled in your FIRST DRAFT to fill in the shape below. Include books by the same author. Then, cut out the shape. Finally, glue the shape to the back of the folder under your REVIEW.

OTHER BOOKS

Summer Work Packet

ELA - English Language Arts
Activities for 10 days

Department of Education
Chancellor Richard A. Carranza

English Language Arts Grade 5

Days 1 & 2

Genre: Short Stories
Task: Read and jot your thinking about two short stories.

Directions:

1. Select and read at least two titles from any one of the following websites:

- http://readmeastoryink.com/stories/the_coldest_night_of_the_year.pdf
- http://readmeastoryink.com/stories/dulce_domum.pdf
- http://readmeastoryink.com/stories/the_reluctant_dragon.pdf

*These web sites are not controlled or approved by the NYC Department of Education

While you read:

- Short stories are stories that can be read from start to finish in one sitting. They are set in one central place and happen over a short period of time and have one conflict that follows through to the end. Unlike a novel with many characters, short stories have only a couple of characters. Every word the characters speak sounds like the speaker and move the story along. They are told from only one point of view and normally has only one mood (the atmosphere or feeling) – e.g. threatening, tense, cheery, etc.
- As you read, think about:
  - What have you learned about the characters and their perspectives?
  - What message is the author communicating through the story? (i.e. "I think the author is saying _____.")
  - What evidence from the text supports your understanding of the author's message? (Two or more pieces of evidence from the text)
  - Do you agree with the author's message? Why or why not?

After you read:

- In your reading response journal or on a piece of loose leaf paper, write down your thoughts and opinions about each story you have read. Briefly summarize each story you read by using the strategy: **Somebody** (main character) **Wants** (the character's goal) **But** (something or someone got in the way) **So** (how the problem was solved)

Days 3 & 4

Genre: Short Stories
Task: Write a short story.

Directions:

Write your own short story that includes an interesting and engaging beginning, a moment of tension, a believable ending, and a central message (a lesson about life).

While you write:

- A short story can be set in one central place and happen in a short period of time. Think about the tone you want to set for your story.
- Short story writers often find story ideas in careful observation of the world around them. Their story ideas can be something that happened to them, something they heard on the news or read in the newspaper, something they saw on the street or the park, something that happened to somebody they know, etc.
- You can plan your story by using a "story mountain" or story map. Think about how particular scenes or events contribute to the development of the story and the central message. Click here for an example of a "story mountain"

(https://www.scholastic.com/content/dam/teachers/blogs/beth-newingham/migrated-files/story-mountain.pdf)

- Writers develop believable characters by thinking about the good and bad aspects of a trait. Be sure to open up general character descriptions – words like kind, funny, etc. – and ask, "What does this word, this trait mean exactly for this character? What does it look like in action? What does it sound like in dialogue?"
- Review the short stories you read on the day 1 and use them as mentor texts.

*These web sites are not controlled or approved by the NYC Department of Education

Days 5 & 6

Genre: Editorial
Task: Read and write a response for two or more editorials.

Directions:

Select and read about two or more editorials from the suggested websites listed below:

- http://www.studentnewsdaily.com/archive/editorials-for-students/
- http://www.courierpostonline.com/story/opinion/editorials/2014/10/08/editorial-schools-can-better-job-feeding-students/16944967/
- http://www.amny.com/opinion
- https://www.nytimes.com/column/learning-student-opinion

*These web sites are not controlled or approved by the NYC Department of Education

While you read:

- Find an article in a newspaper or other periodical or on a website presenting the opinion of the publisher, writer, or editor about a topical issue.
- Before reading:
  - Skim the whole text and jot down what you think the article will teach you before you start reading, (i.e. "I think I will learn _____ because_____.").
- During reading:
  - Actively use text features (e.g. section heading, illustrations/photographs, captions, graphs/diagrams, boxes and sidebars, etc.) to chunk the text.
  - Use any of the following to help you read deeply, as you read each chunk,: "This reminds me of..." or "I already knew that…" or "Oh, I realize now that…" or "Something new I learned is…" or "I was surprised by …" or "I didn't get … because …."
  - Stop and jot down key information you learned at the end of every "chunk."
- After reading, think about:
  - What is the issue?
  - What is your position on the issue?
  - What is the author's position?
  - What are the arguments that support the author's position?
  - How does this editorial change how you think about that issue?
  - What questions do you still have on the issue?

After you read:

- In your reading response journal or on a sheet of loose leaf paper, describe the issue discussed in each editorial, the author's position and your position on the issue, the arguments that support the author's position, and if this editorial changed how you think about that issue.

Department of Education
Chancellor Richard A. Carranza

Days 7 & 8

Genre: Editorial
Task: Writing

Directions:

Write an editorial that contains the following elements:

- An introduction that forecasts how your editorial will go by stating your position: "I think …" or "I believe …"
- Then tell your reader why your claim is true:
  - "One reason I think is … is because …"
    - Example #1: _____
    - Example #2: _____
  - "Another reason I think is … is because …"
    - Example #1: _____
    - Example #2: _____
  - "The final reason I think … is because …"
    - Example #1: _____
    - Example #2: _____
- Conclude your editorial with an idea you want to leave your readers with in your concluding sentence.

While you write:

- An editorial is an article that expresses the opinion of the person who or organization that wrote it.
- How do you get ideas for editorials?
  - First decide what question about the topic interests you most
  - Then choose details, observations, quotations, and research information that apply to the question
  - Remember not everything from your research is necessary usable.
- Planning your editorial:
  - Make sure you can state your position to yourself first, and then make sure you state this in the introduction.
  - Open and end your body paragraphs with your most convincing points.
  - Support your position by quoting an expert and share what s/he has to say about your topic or include statistics.
  - Conclude with an idea you want to leave your readers with.
- When you use words such as *always, never, every, all or none*, you are boxing your ideas in arguments that are hard to support. Instead, choose words and phrases that won't box you into a corner, such as: *almost, usually, maybe, perhaps, seldom, often, some, most, probably, rarely, overwhelming majority, nine times out of ten,* etc.

Days 9 & 10

Independent Reading

Directions:

Read a book with your family in English or your native language. Write the title and author below. Read the book on day 9 and discuss with your family. On day 10, re-read the book and write about it.

** A note to parents and guardians: please pause and talk about the text with your child as you read along with them.*

If you would like an e-book, go to https://www.galepages.com/nycdoe11/ebooks

Title: _____

Author: _____

After Reading: Write a one page response to your book.

- Describe the characters in the book. Who are they and what are their relationships?
- Describe the setting of the story.
- Explain the events of the story so far.
- What is the main problem or conflict in the story?
- How is the problem or conflict dealt with by the main characters?
- Think about what might happen next in the book or what happens might happen after the story ends (if you have finished the book).

Summer Work Packet

<u>Math - Conceptual Practice</u>

NAME _____ **DATE** _____

Multiplication & Division Facts

1 Complete the multiplication facts.

0 × 5 = ____	7 × 4 = ____	8 × 6 = ____	3 × 4 = ____	6 × 6 = ____	3 × 6 = ____	7 × 8 = ____
4 × 4 = ____	6 × 8 = ____	7 × 7 = ____	8 × 4 = ____	1 × 9 = ____	3 × 7 = ____	5 × 6 = ____
10 × 4 = ____	5 × 5 = ____	8 × 8 = ____	9 × 3 = ____	4 × 9 = ____	7 × 5 = ____	6 × 7 = ____

2 Complete the division facts.

42 ÷ 6 = _____ 54 ÷ 6 = _____ 24 ÷ 3 = _____

63 ÷ 9 = _____ 28 ÷ 4 = _____ 7 ÷ 1 = _____

3 Write a greater than, less than, or equal sign to complete each number sentence. Try to complete each number sentence without doing all the calculations.

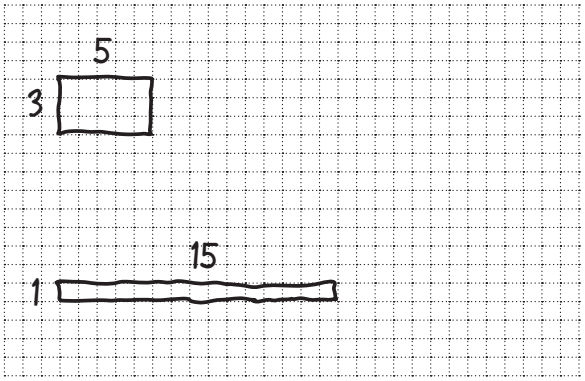
example 36 + 4 < 26 + 20	**a** 2 × 24 ____ 2 × 16
b 400 ÷ 80 ____ 400 ÷ 10	**c** 77 – 20 ____ 67 – 20
d 36 + 23 ____ 46 + 16	**e** 458 – 129 ____ 358 – 29
f 3 × 360 ____ 40 × 30	**g** 50 × 400 ____ 400 × 50
h 2,500 ÷ 10 ____ 1,000 ÷ 5	**i** 24,000 ÷ 6 ____ 48,000 ÷ 12

NAME _____ **DATE** _____

Finding Factor Pairs

1 Draw and label rectangles to show all the factor pairs for each number. Then write the factor pairs in the space provided.

example 15



Factors of 15 3, 5, 1, 15

a 18

Factors of 18 _____

b 24

Factors of 24 _____

c 28

Factors of 28 _____

CHALLENGE

2 Find all the factor pairs for 100. Sketch rectangles on another sheet of paper to help if you need to.

NAME _____ **DATE** _____

Multiplication Practice

1 Solve the following multiplication problems.

20 × 3	20 × 4	30 × 6	30 × 8	30 × 9	40 × 5	40 × 7
50 × 3	50 × 4	50 × 8	60 × 8	60 × 5	60 × 6	70 × 7
70 × 3	90 × 7	80 × 7	80 × 6	90 × 8	80 × 9	40 × 8

2 Solve each problem below using the partial products method shown.

135 × 4	27 × 6	29 × 5	57 × 6
53 × 8	108 × 6	217 × 4	433 × 6

4 × 100 = 400
4 × 30 = 120
4 × 5 = + 20
540

NAME _____ **DATE** _____

Multiples of 3 & 4

1a Circle the rest of the multiples of 3. (count-by-3 numbers)

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

b What do you notice about the multiples of 3?

2a Circle the rest of the multiples of 4. (count-by-4 numbers)

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

b What do you notice about the multiples of 4?

3 What do you notice about the numbers that are multiples of both 3 and 4?

NAME _____ **DATE** _____

Multiples of 6 & 7

1a Circle the rest of the multiples of 6. (count-by-6 numbers)

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

b What do you notice about the multiples of 6?

2a Circle the rest of the multiples of 7. (count-by-7 numbers)

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

b What do you notice about the multiples of 7?

3 What numbers are multiples of both 6 and 7?

4 What would be the first multiple of 6 and 7 that is greater than 100? Explain how you know.

NAME _____ **DATE** _____

Addition & Subtraction Review

1 Solve the addition problems below.

457 + 142	387 + 414	609 + 734	1,589 + 3,437

2 Solve the subtraction problems below.

803 – 547	745 – 548	985 – 237	3,581 – 1,346

3 Fill in the missing numbers to make each equation true.

a 100 = _____ + 30	**b** 100 × _____ = 1,000
c 4 = _____ ÷ 9	**d** _____ = 100 – 56
e 18 × 2 = _____ × 4	**f** 90 ÷ _____ = 5 × 9

4 Fill in the missing digits.

example

$$\begin{array}{r} 5\,\boxed{3}\,\boxed{6} \\ -\ 2\ 4\ 8 \\ \hline \boxed{2}\ 8\ 8 \end{array}$$

a

$$\begin{array}{r} \square\ 0\ \square \\ -\ 1\ \square\ 9 \\ \hline 2\ 2\ 3 \end{array}$$

b

$$\begin{array}{r} \square\ 8\ 2 \\ -\ 1\ \square\ \square \\ \hline 4\ 0\ 5 \end{array}$$

c

$$\begin{array}{r} \square\ 2\ 4\ 6 \\ -\ 1\ \square\ 2\ \square \\ \hline 2\ 9\ \square\ 7 \end{array}$$

d

$$\begin{array}{r} 3\ 0\ \square\ 8 \\ -\ 1\ \square\ 9\ \square \\ \hline \square\ 7\ 1\ 2 \end{array}$$

e

$$\begin{array}{r} 5\ 0\ 6\ \square\ 3 \\ -\ \square\ 7\ \square\ 5\ 5 \\ \hline 1\ \square\ 1\ 3\ \square \end{array}$$

NAME _____ **DATE** _____

Run for the Arts

1 Stephanie is 11 years old. Her sister Emma is 9 years old. They are doing Run for the Arts at their school. Stephanie wants people to make pledges based on the number of miles she runs. Emma just wants people to pledge a certain amount of money. Their grandma pledged $36 for Emma and $8 per mile for Stephanie. Their uncle pledged $18 for Emma and $7 per mile for Stephanie. How many miles will Stephanie need to run to earn more money than Emma?

a Restate the question in your own words:

b Underline the information in the problem you *do* need to solve the problem.

c Cross out the information in the problem you *don't* need to solve the problem.

d Solve the problem. Show all your work.

e Does your answer make sense? Explain how you can tell.

NAME _____ **DATE** _____

Order of Operations

The order of operations tells you how to do calculations when there is more than one kind of operation.

Order of Operations	Example
	$20 - 12 \div (3 + 1)$
1. Anything inside parentheses	$20 - 12 \div \mathbf{(3 + 1)} = 20 - 12 \div 4$
2. Multiplication and division from left to right	$20 - \mathbf{12 \div 4} = 20 - 3$
3. Addition and subtraction from left to right	$\mathbf{20 - 3} = 17$

1 Use the order of operations above to complete each equation.

a $(9 + 3) \times (16 \div 8) \div 4$	**b** $(365 + 35) \div 5 + 3$
c $36 \div 6 + 4 \times (27 \div 9)$	**d** $(26 - 18) \times 5 \div 10 + 10$

2 Insert parentheses to make each equation true.

a $2 \times 18 - 5 + 15 \div 5 = 32$	**b** $34 - 20 \div 4 + 3 = 2$
c $14 = 50 - 42 \div 3 + 4 \times 6$	**d** $21 = 7 + 16 - 8 \div 2 + 2 \times 25 \div 5$

CHALLENGE

3 Using at least two operations, write an expression that is the same whether you do the calculations from left to right or using the correct order of operations.

NAME _____ **DATE** _____

Understanding & Using Number Properties

If you are adding or multiplying, you can change the order of the numbers or the way they are grouped to make the calculations easier. The three properties below can make mental math easier.

Commutative Property	Associative Property	Distributive Property
Changing the order of two numbers or numerical expressions when you add or multiply does not change the answer.	Changing the way you group three numbers or numerical expressions when you add or multiply does not change the answer.	You can break a number apart, multiply each part separately, and then add the products. You will still get the same answer.
$5 + 2 = 2 + 5$ $5 \times 2 = 2 \times 5$	$(38 \times 4) \times 25 = 38 \times (4 \times 25)$ $= 38 \times 100$ $= 3{,}800$	$6 \times 13 = 6 \times (10 + 3)$ $= 6 \times 10 + 6 \times 3$ $= 60 + 18$ $= 78$

1 For each problem below:

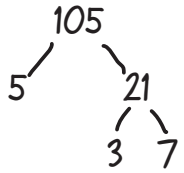
- Write it a different way so it's easier to solve in your head.
- Solve it and write the answer.
- Circle C if you switched the order of the numbers.
- Circle A if you grouped the numbers in a different way.
- Circle D if you broke the number apart and multiplied one part at a time.
- You may need to circle more than one property.

Problem	Rewrite	Answer	Property
ex $(70 + 469) + 30$	$(70 + 30) + 469$	569	C A D
a $(69 + 45) + 55$			C A D
b 4×32			C A D
c $4 \times (16 \times 25)$			C A D
d $(250 + 86) + 50$			C A D

NAME _____ **DATE** _____

Prime Factorization

1 Show the prime factorization for each number. Then use the prime factors to help determine *all* the factors of that number.

Number	Prime Factorization	*All* the Factors (Thinking of Factor Pairs)
ex 105		1, 105 3, 35 5, 21 7, 15
a 18		
b 45		
c 72		

2 What factors do 18, 45, and 72 have in common?

3 What is the *greatest* factor that 18, 45, and 72 have in common?

NAME _____ **DATE** _____

Rounding Decimals

When you are rounding, look at the digit one place to the right of where you want to round. If you round to the nearest one, look at the digit in the tenths place. If you round to the nearest ten, look at the digit in the ones place. If the digit is 5 or higher, round up. If it is less than 5, round down.

1 Underline the number in the tenths place. Then circle *up* or *down* to show whether you are rounding up or down. Then round the number to the nearest one.

ex 11.72 rounds (up)/down to 12.00.	**a** 2.47 rounds up/down to _____.
b 33.29 rounds up/down to _____.	**c** 4.56 rounds up/down to _____.

2 Underline the number in the ones place. Then circle *up* or *down* to show whether you are rounding up or down. Then round the number to the nearest ten.

ex 14.89 rounds up/(down) to 10.00.	**a** 17.28 rounds up/down to _____.
b 35.67 rounds up/down to _____.	**c** 43.05 rounds up/down to _____.

3 Use rounding and estimation to answer the questions below without doing all the calculations. Fill in one circle to answer each question.

a Chris read a really great book that he thinks his friends would like too. Each copy of the book costs $7.99. If Chris has $32, can he buy a copy for each of his four friends?

◯ Yes, he has enough money. ◯ No. He does not have enough money.

b Melissa wants to buy 3 magazines. She has $6 and each magazine costs $2.65. Does she have enough money to buy 3 magazines?

◯ Yes, she has enough money. ◯ No. She does not have enough money.

c Frank is buying ham to make sandwiches for a picnic. He has $25 and the ham costs $6.79 per pound. Does he have enough money to buy 3 pounds of ham?

◯ Yes, he has enough money. ◯ No. He does not have enough money.

NAME _____ **DATE** _____

Time Calculations

1 There are _____ minutes in an hour.

2 Complete the table below.

Add these times	Your Work	Your Answer in Hours & Minutes
ex 45 mins. + 45 mins.	45 + 45 = 90 90 - 60 = 30	1 hour, 30 mins.
a 45 mins. + 90 mins.		
b 30 mins. + 45 mins.		
c 60 mins. + 90 mins.		

3 Shanda's mom dropped her and her friend Lisa off at the park at 2:00 pm. She said she would come back for them at 5:00 pm. Shanda and Lisa spent 45 minutes on the playground and 30 minutes talking to some other friends at the water fountain. Then they decided they wanted to spend the rest of their time at the pool. How much time do they have to spend at the pool before Shanda's mom comes back? Show all your work.

4 Carlos sleeps from 8:30 at night until 6:15 in the morning. His brother Miguel sleeps from 9:00 at night until 7:00 in the morning. Who gets more sleep each night, Carlos or Miguel? Explain how you know.

NAME _____ **DATE** _____

Chin's Vegetable Patch

1 Chin is using 36 feet of leftover fencing his neighbor gave him to make a rectangular vegetable patch in his backyard. He wants to use up all the fencing and make the patch have the largest area possible. What should be the dimensions of Chin's vegetable patch?

a Restate the question in your own words:

b Solve the problem. Show all your work.

CHALLENGE

2 Use numbers, words, and/or sketches to describe any patterns you noticed while solving this problem.

NAME _____ **DATE** _____

Using Basic Facts to Solve Larger Problems

Knowing the basic multiplication and division facts can help you multiply larger numbers. Start with the basic facts below and then complete the related fact family of larger numbers. Then make up your own fact family based on other related numbers.

Basic Fact Family	Related Fact Family	Your Own Related Fact Family
example 4 × 3 = 12 3 × 4 = 12 12 ÷ 4 = 3 12 ÷ 3 = 4	40 × 3 = 120 3 × 40 = 120 120 ÷ 40 = 3 120 ÷ 3 = 40	40 × 30 = 1,200 30 × 40 = 1,200 1,200 ÷ 40 = 30 1,200 ÷ 30 = 40
1 ____ × ____ = ____ 6 × 8 = 48 ____ ÷ ____ = ____ 48 ÷ 6 = 8	80 × 6 = 480 ____ × ____ = ____ 480 ÷ 80 = 6 ____ ÷ ____ = ____	____ × ____ = ____ ____ × ____ = ____ ____ ÷ ____ = ____ ____ ÷ ____ = ____
2 ____ × ____ = ____ 9 × 4 = 36 ____ ÷ ____ = ____ 36 ÷ 9 = 4	40 × 9 = 360 ____ × ____ = ____ 360 ÷ 40 = 9 ____ ÷ ____ = ____	____ × ____ = ____ ____ × ____ = ____ ____ ÷ ____ = ____ ____ ÷ ____ = ____
3 ____ × ____ = ____ 7 × 3 = 21 ____ ÷ ____ = ____ 21 ÷ 7 = 3	30 × 7 = 210 ____ × ____ = ____ 210 ÷ 30 = 7 ____ ÷ ____ = ____	____ × ____ = ____ ____ × ____ = ____ ____ ÷ ____ = ____ ____ ÷ ____ = ____

NAME _____ **DATE** _____

Multiplying by Multiples of 10

1 Complete the following multiplication problems.

10	100	1,000	20	200	20
× 10	× 10	× 10	× 10	× 10	× 20
____	____	____	____	____	____

2 Use each number below just one time to complete the multiplication problems.

3	6	30	60

8 0	7 0	4 0	6 0
× ☐	× ☐	× ☐	× ☐
2 4 0 0	4 2 0	2 4 0 0	1 8 0

3 Complete each basic fact and the related multiplication problem. Then write and solve another multiplication problem you could solve with that basic fact. You can use numbers that are as big as you want them to be.

Basic Facts	Related Problem	Your Own Problem and Solution
ex 4 × 5 = 20	40 × 5 = 200	40 x 500 = 20,000
a 6 × 4 = _____	60 × 40 = _____	
b 8 × 7 = _____	80 × 7 = _____	
c 3 × 9 = _____	30 × 9 = _____	
d 9 × 6 = _____	90 × 60 = _____	
e 9 × 4 = _____	90 × 4 = _____	

NAME _____ **DATE** _____

Using the Standard Multiplication Algorithm

1 Solve these multiplication problems.

80	80	90	90	100	100
× 30	× 40	× 30	× 40	× 30	× 40

2 Solve these multiplication problems using the standard algorithm. Use the answers above to help make sure your answers are reasonable.

ex

$$\begin{array}{r} {}^{1}\not{2} \\ 84 \\ \times\ 36 \\ \hline {}^{1}\ 504 \\ +\ 2{,}520 \\ \hline 3{,}024 \end{array}$$

a

$$\begin{array}{r} 79 \\ \times\ 26 \\ \hline \end{array}$$

b

$$\begin{array}{r} 86 \\ \times\ 32 \\ \hline \end{array}$$

c

$$\begin{array}{r} 92 \\ \times\ 37 \\ \hline \end{array}$$

d

$$\begin{array}{r} 82 \\ \times\ 43 \\ \hline \end{array}$$

e

$$\begin{array}{r} 98 \\ \times\ 29 \\ \hline \end{array}$$

NAME _____ **DATE** _____

The Soccer Tournament & the Video Arcade

1 There was a soccer tournament at the local park last summer. There were 16 teams in the tournament. There were 18 players on 10 of the teams and 17 players on the rest of the teams. How many soccer players were participating in the tournament in all? Show all your work.

2 Beth and her brother went to the arcade. It cost 75¢ to play 3 games. They played 21 games in all. How much money did they spend?

NAME _____ **DATE** _____

Metric Conversions

Knowing how to multiply and divide by 10, 100, and 1,000 can help you make conversions between units in the metric system.

1 Metric Units of Length/Distance

a Complete the following sentences.	**b** Use the information in part *a* to complete the equivalencies below.
There are 1,000 millimeters in 1 meter.	10 millimeters = 1 centimeter
There are _____ centimeters in 1 meter.	_____ centimeters = 1 kilometer
There are _____ meters in 1 kilometer.	_____ millimeters = 1 kilometer

2 Metric Units of Volume/Capacity

a Complete the following sentences.	**b** Use the information in part *a* to complete the equivalencies below.
There are 1,000 milliliters in 1 liter.	3,000 milliliters = 3 liters
There are _____ centiliters in 1 liter.	_____ centiliters = 4 liters
There are _____ liters in 1 kiloliter.	_____ liters = 7 kiloliters

3 Metric Units of Mass

a Complete the following sentences.	**b** Use the information in part *a* to complete the equivalencies below.
There are 1,000 milligrams in 1 gram.	2,500 milligrams = 2.5 grams
There are _____ centigrams in 1 gram.	_____ centigrams = 4.5 grams
There are _____ grams in 1 kilogram.	_____ grams = 3.5 kilograms

CHALLENGE

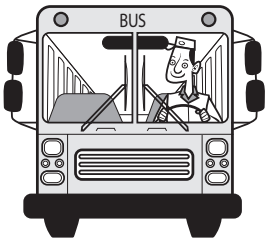
4 Complete the following conversions.

a _____ millimeters = 1 kilometer **b** _____ millimeters = 4.5 kilometers

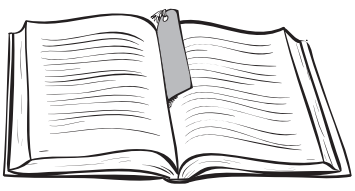
NAME _____ **DATE** _____

Riding the Bus & Reading for Fun

1 Frank rides the bus to and from school every week day. His dad rides the bus to and from work every week day. The bus costs $1.30 each way for a student and $1.65 each way for an adult. There were 23 week days in March. How much more did Frank's dad have to pay to ride the bus in March? Show all your work.



2 Lisa's teacher says that the students in her class should spend between 20 and 45 minutes each night reading for fun even on the weekends. Whitney says she's going to read just 20 minutes each night this week. Corey says he's going to read 45 minutes each night this week. How much more time will Corey spend reading this week than Whitney? Show all your work.



NAME _____ **DATE** _____

Multiplication & Division Problems

1 Fill in the missing numbers.

6 × □ = 48	8 × □ = 16	□ × 5 = 40	□ × 6 = 54	4 × □ = 28
5 × □ = 45	6 × □ = 30	□ × 7 = 49	□ × 4 = 16	8 × □ = 56

2 Write an equation to answer each question below.

Question	Equation	Answer
ex How many quarters are in 75¢?	75 ÷ 25 = 3	3 quarters
a How many cartons of 12 eggs make 36 eggs altogether?		
b There are 6 cans of soda in a pack. How many packs make 42 cans?		
c There are 24 cans of soda in a case. How many cases make 72 cans?		
d There are 3 tennis balls in a can. How many cans make 27 balls?		
e Jim rides his bike at 10 miles per hour. How many hours will it take him to ride 30 miles?		

NAME _____ **DATE** _____

Baking Cookies & Drying Clothes

1 Anne is baking giant cookies with her dad. They are baking them in batches of 8. If they made 36 cookies, how many batches did they have to bake? Show all your work.

2 Joe was doing his laundry at the laundromat. The dryer went for 15 minutes every time he put a quarter in it. He wanted to leave as soon as possible, so he kept checking on his clothes to see if they were dry. If his clothes were done drying in 50 minutes, how much money did Joe spend on the dryer? Show all your work.

NAME _____ **DATE** _____

Carla's Market & The Animal Shelter

1 Carla is putting apples in bags to sell at her market. She has 139 apples altogether. If she wants to have the fewest possible apples left over when she is done, should she put them in bags of 4 or 5? Show all your work.

2 Jorge volunteers at the animal shelter every Saturday. His neighbor Mrs. Johnson volunteers at the animal shelter every other day. Mrs. Johnson was at the animal shelter on the first day of this month, which was a Wednesday. How many times this month will Jorge and Mrs. Johnson be at the animal shelter on the very same day? Hint: *You could sketch a calendar to help solve the problem.*

NAME _____ **DATE** _____

Estimating Money Amounts

Fill in the circles to answer the questions below.

1 Donny has a five-dollar bill, six quarters, and three dimes in his pocket. It would be most accurate to say that he has:

◯ about $5 in his pocket

◯ about $6 in his pocket

◯ about $7 in his pocket

2 Amber has a ten-dollar bill in her pocket. She got herself a milkshake for $3.60. She told her 2 little sisters she would buy them some ice cream too but that she cannot afford to get them each a milkshake. Is Amber right?

◯ She is right. She cannot afford to buy two more milkshakes.

◯ She is wrong. She can afford to buy two more milkshakes.

3 Chris wants a bike so that he can ride to and from school. The bike costs $237. Chris's mom spends $37.50 on his bus pass each month so that he can ride the bus to and from school. Chris told his mom that the bike would be a better deal after 5 months. (In other words, he said it would cost more to the ride the bus for 5 months than to buy the bike.) Was he right?

◯ Chris is right. The bike will be a better deal after 5 months.

◯ Chris is wrong. The bike is more expensive than 5 months of bus passes.

4 Lisa's mom gave her a $20 bill and asked to go to the store to get some groceries. She said that if there was any money left, she could buy a treat for herself. Here is a list of the things Lisa had to buy:

- gallon of milk, $3.50
- loaf of bread, $2.45
- block of cheese, $6.25
- carton of juice, $3.35
- broccoli, $1.50

Which treat could Lisa afford to buy?

◯ ice cream for $3.65

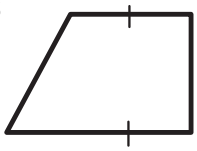
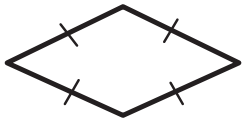
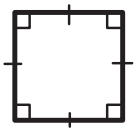
◯ a bag of cherries for $2.00

◯ a magazine for $4.25

NAME _____ **DATE** _____

Classifying Quadrilaterals

A *quadrilateral* is any polygon that has 4 sides. There are many kinds of quadrilaterals, including:

Trapezoid: a quadrilateral with exactly 1 pair of parallel sides 	Rectangle: a quadrilateral with 2 pairs of parallel sides and 4 right angles 
Rhombus: a quadrilateral with 4 sides that are all the same length 	Square: a quadrilateral with 4 right angles and 4 sides that are all the same length 
Parallelogram: a quadrilateral with 2 pairs of parallel sides 	

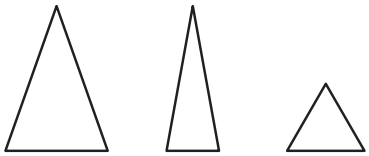
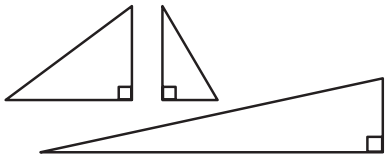
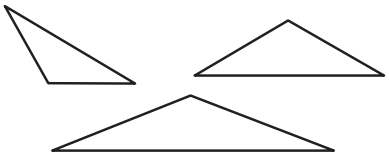
1 Look carefully at the figures below. Decide how many right angles, pairs of congruent sides, and pairs of parallel sides each has. Then circle the word or words that say what kind of figure it is. You might circle more than one word for some figures.

Figure	Right Angles?	Pairs of Congruent Sides?	Pairs of Parallel Sides?	Circle the word(s) that describe(s) the figure.
a 				trapezoid rectangle rhombus square parallelogram
b 				trapezoid rectangle rhombus square parallelogram
c 				trapezoid rectangle rhombus square parallelogram

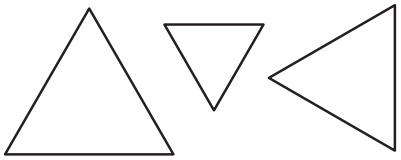
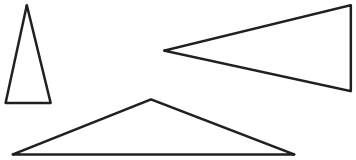
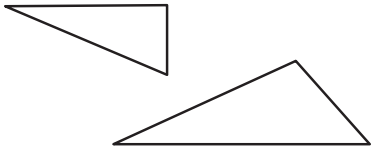
NAME _____ **DATE** _____

Classifying Triangles

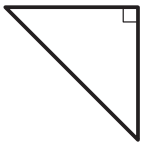
You can group triangles by the size of their angles.

Acute triangles All 3 angles are acute.	Right triangles 1 angle is a right angle.	Obtuse triangles 1 angle is an obtuse angle.
		

You can also group triangles by the lengths of their sides.

Equilateral triangles All 3 sides are the same length.	Isosceles triangles 2 sides are the same length.	Scalene triangles No sides are the same length.
		

1 Look carefully at the triangles below and fill in the chart.

Triangle	Acute Angles?	Right Angles?	Obtuse Angles?	Congruent Sides?	What Kind? (circle as many as apply)
a 					acute equilateral right isosceles obtuse scalene
b 					acute equilateral right isosceles obtuse scalene

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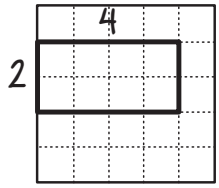
Finding the Areas of Rectangles, Triangles & Parallelograms

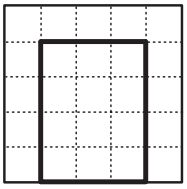
1 Find the area of each rectangle below. Each small square has an area of 1 square unit.

ex

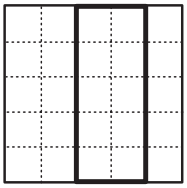


$2 \times 4 = 8$
8 square units

a

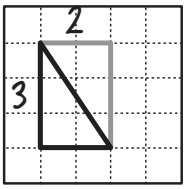


b



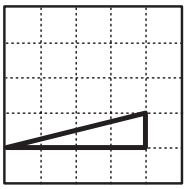
2 Find the area of each triangle below. Each small square has an area of 1 square unit.

ex

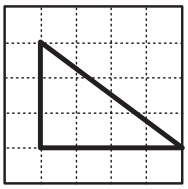


$(3 \times 2) \div 2 = 3$
3 square units

a

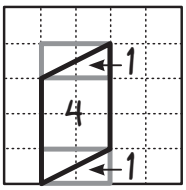


b



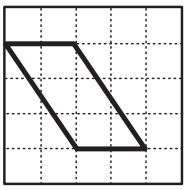
3 Find the area of each parallelogram below. Each small square has an area of 1 square unit.

ex

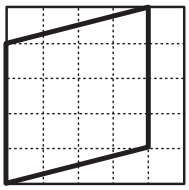


$2 \div 2 = 1$
$2 \times 2 = 4$
$1 + 1 + 4 = 6$
6 square units

a



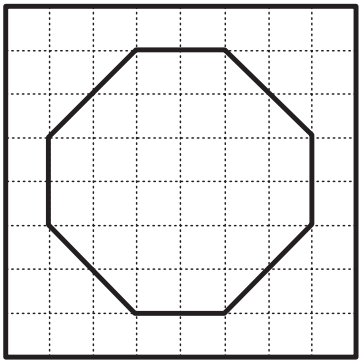
b



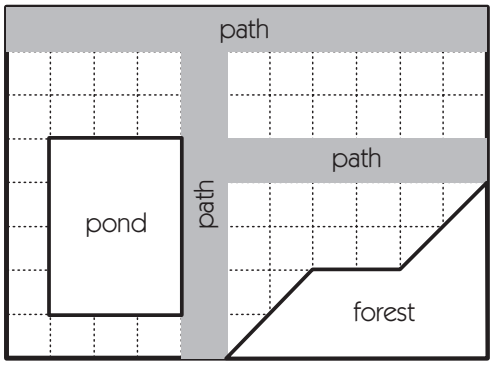
NAME _____ **DATE** _____

Area Story Problems

1 A spider spun a web shaped like this on our screen door. What area (in square units) did the web cover? Show all your work.



2 This is a map of the park near Sam's house. Any place that is not a path, the pond, or the forest is covered in grass. If each square represents 9 square yards, what area of the park is covered in grass? Show all your work.

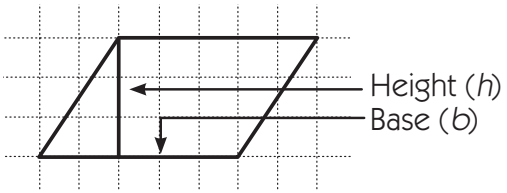


NAME _____ **DATE** _____

Finding the Areas of Parallelograms

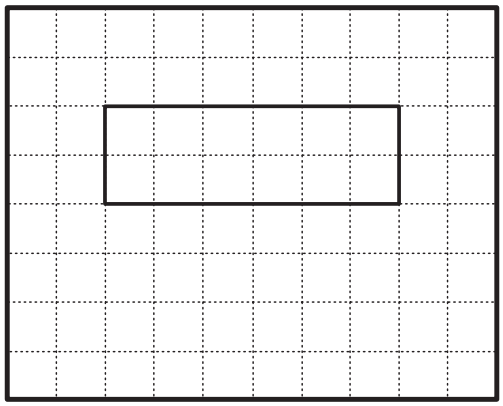
To find the area of any parallelogram, including squares and rectangles, multiply the base by the height.

Base × Height = Area
5 × 3 = 15 square units



1 Multiply the base by the height to find the area of these parallelograms.

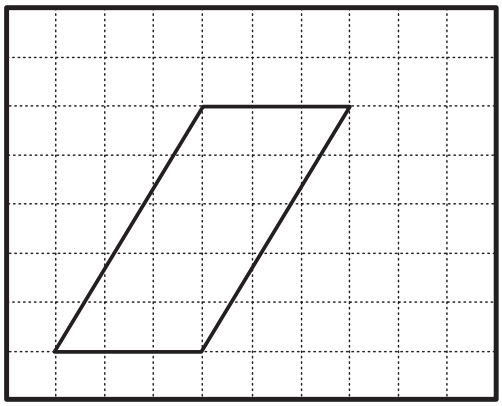
ex



Base 6 Height 2

Area 6 x 2 = 12 square units

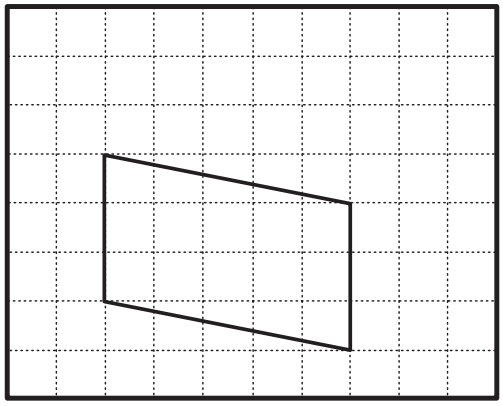
a



Base _____ Height _____

Area _____

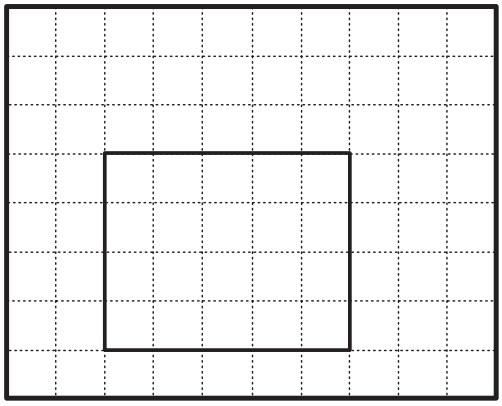
b



Base _____ Height _____

Area _____

c



Base _____ Height _____

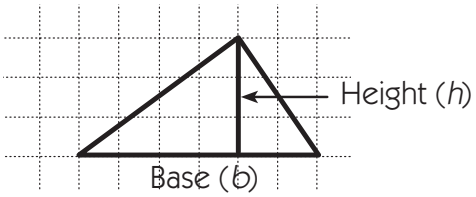
Area _____

NAME _____ **DATE** _____

Finding the Area of a Triangle

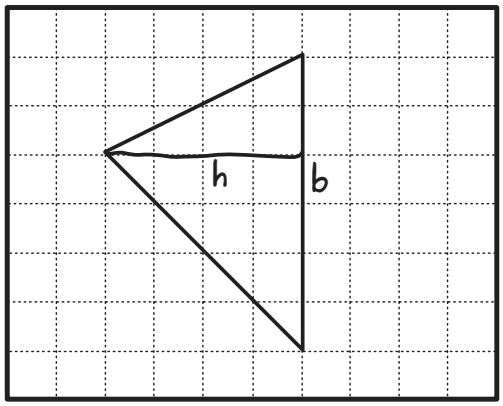
To find the area of any triangle, multiply the base by the height and then divide by 2.

(Base × Height) ÷ 2 = Area
(6 × 3) ÷ 2 = 9 Square Units



1 Label the base and height on each triangle. Then use the formula above to find the area of each one.

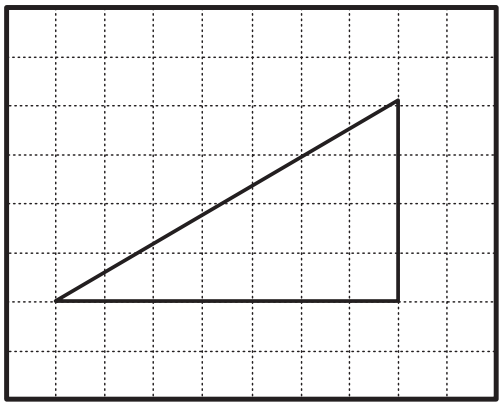
ex



Base 6 Height 4

Area (6 x 4) ÷ 2 = 12 square units

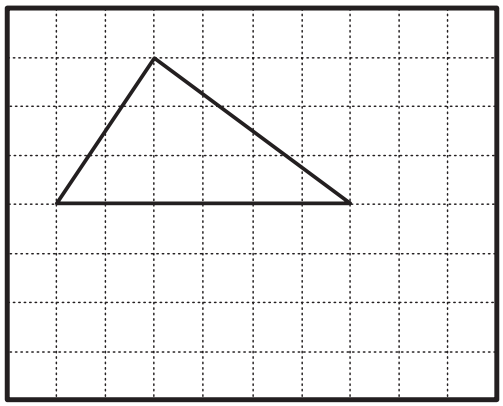
a



Base _____ Height _____

Area _____

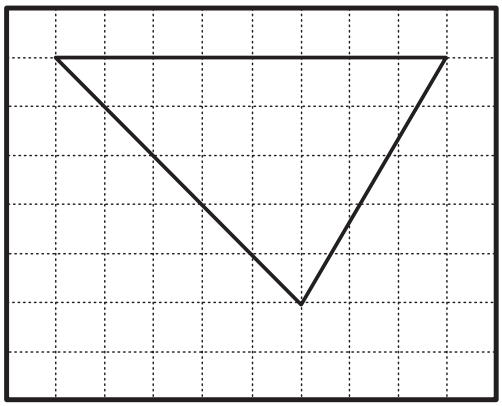
b



Base _____ Height _____

Area _____

c



Base _____ Height _____

Area _____

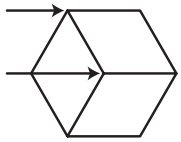
NAME _____ **DATE** _____

Faces, Edges & Vertices

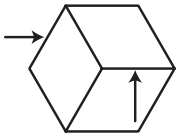
1 Use each word one time to show what part of the cube the arrows are pointing to in each picture.

edges faces vertices

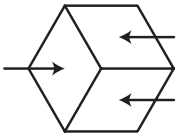
a _____



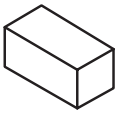
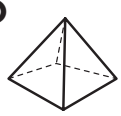
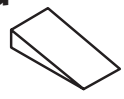
b _____



c _____



2 Fill in the table to describe and name each three-dimensional figure.

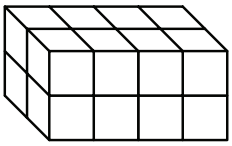
	Faces	Edges	Vertices	Shape Name
ex 	6	12	8	cube
a 				
b 				
c 				
d 				
e 				
f 				

NAME _____ **DATE** _____

Surface Area & Volume

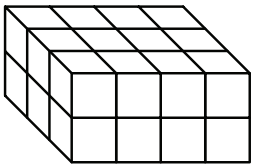
1 Each figure below is built out of centimeter cubes. Find the surface area and volume of each one.

ex



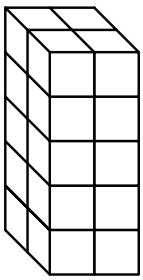
Surface Area	Volume
2 x 2 x 2 = 8 4 x 2 x 4 = 32 8 + 32 = 40 sq. cm.	2 x 2 x 4 = 16 cubic cm.

a



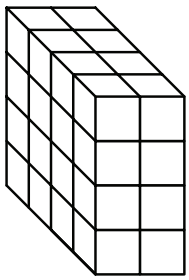
Surface Area	Volume

b



Surface Area	Volume

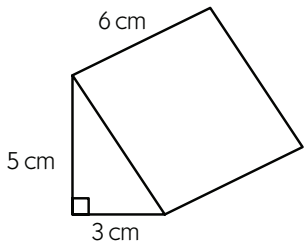
c



Surface Area	Volume

CHALLENGE

2 Find the volume of this triangular prism.



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Using Basic Fact Strategies to Multiply Larger Numbers

Thinking about basic fact strategies and relationships between facts can help you multiply larger numbers too.

To multiply by	Strategy	Example	
3	Double the number and add 1 more of that number.	3 × 16	2 × 16 = 32 32 + 16 = 48
5	Think of the number times 10. Then cut it in half.	5 × 16	10 × 16 = 160 160 ÷ 2 = 80
20	Think of the number times 10. Then double it.	20 × 16	10 × 16 = 160 160 + 160 = 320
30	Think of the number times 10. Double it. Then add them together.	30 × 16	10 × 16 = 160 160 + 160 = 320 320 + 160 = 480
15	Think of the number times 10. Cut it in half. Then add them together.	15 × 16	10 × 16 = 160 160 ÷ 2 = 80 160 + 80 = 240

1 Complete the multiplication problems below. Use problems you have already solved to help solve other ones.

a	**b**	**c**
24 × 1 = _____	32 × 1 = _____	17 × 1 = _____
24 × 2 = _____	32 × 2 = _____	17 × 2 = _____
24 × 3 = _____	32 × 3 = _____	17 × 3 = _____
24 × 10 = _____	32 × 10 = _____	17 × 10 = _____
24 × 5 = _____	32 × 5 = _____	17 × 5 = _____
24 × 20 = _____	32 × 20 = _____	17 × 20 = _____
24 × 30 = _____	32 × 30 = _____	17 × 30 = _____
24 × 15 = _____	32 × 15 = _____	17 × 15 = _____

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More Division Story Problems

1 A group of migrating geese travels at about 40 miles per hour. About how many hours of flying will it take them to go 320 miles? Show all your work.

2 Ellie is reading a book that is 257 pages long. If she reads 30 pages every day, how many days will it take her to read the whole book? Show all your work.

3 Paulo made some candies that he is going to sell at the market. He is putting 20 candies in a bag. If he has 187 candies altogether, how many bags can he fill? Show all your work.

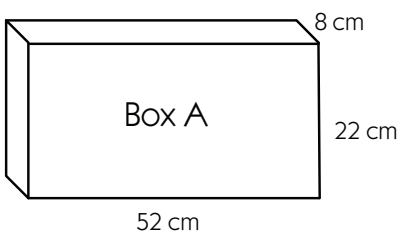
CHALLENGE

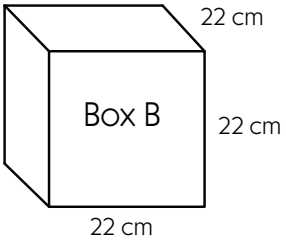
4 A group of robins took 78 days to fly 3,000 miles. On average, about how many miles did the robins fly each day? Explain why your estimate is reasonable.

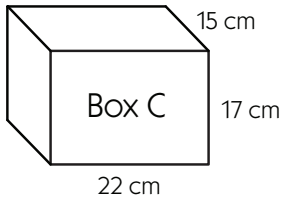
NAME _____ **DATE** _____

Which Box Holds the Most?

1 Ebony's cousin Jada is away at college this year. Ebony wants to send her a package with some candy in it. She has the three boxes shown below. Which box should she use if she wants to send Jada as much candy as possible?







a What do you need to know about the boxes in order to answer the question above?

b Solve the problem. Show all your work.

2 Ebony wants to wrap the box in paper before she sends it to Jada. What is the surface area of the box you chose above? Show all your work.

NAME _____ **DATE** _____

Division with Menus & Sketches

1 Fill in the mutiplication menu.

a 1 × 19 = _____ **b** 2 × 19 = _____ **c** 10 × 19 = _____

d 5 × 19 = _____ **e** 20 × 19 = _____ **f** 15 × 19 = _____

2 Solve the two division problems using the menu above and sketches to help. You can add to the menu if you want to.

ex 304 ÷ 19 = 16	**a** 608 ÷ 19 = _____	**b** 456 ÷ 19 = _____
Computation: 1 5] 16 10 19 ⟌ 304 - 190 114 - 95 19 - 19 0	Computation:	Computation:
Sketch: 10 5 1 19 190 95 19	Sketch:	Sketch:

3 If you need to, use the divisibility rules on page 67 to help answer these.

a Are any of the numbers above (304, 608, 456) divisible by 3? If so, list them here:

b Are any of the numbers above divisible by 6? If so, list them here:

c Are any of the numbers above divisible by 9? If so, list them here:

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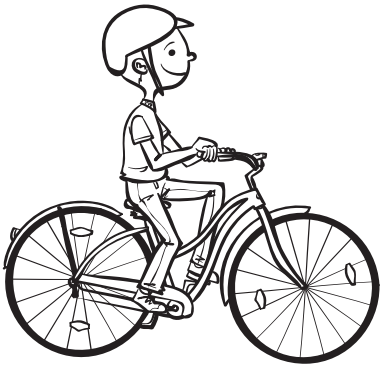
Money & Miles

1 Mrs. DeLuca is buying CD's for her neices and nephews. Each CD costs $16. She has $164 to spend. How many CD's could she buy? Show all your work.

2 Mr. Henry wants to bike 351 miles this summer. If he starts on a Monday and does a route that is 13 miles every weekday, how many weeks will it take him to bike 351 miles? Show all your work.



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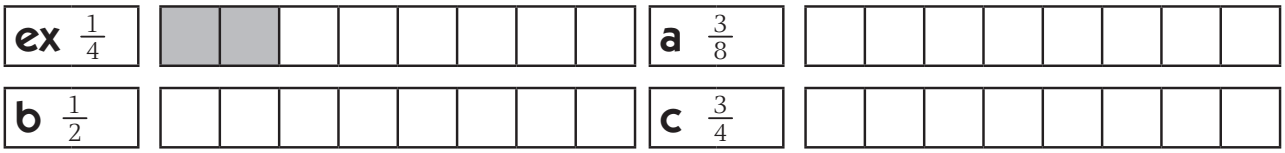
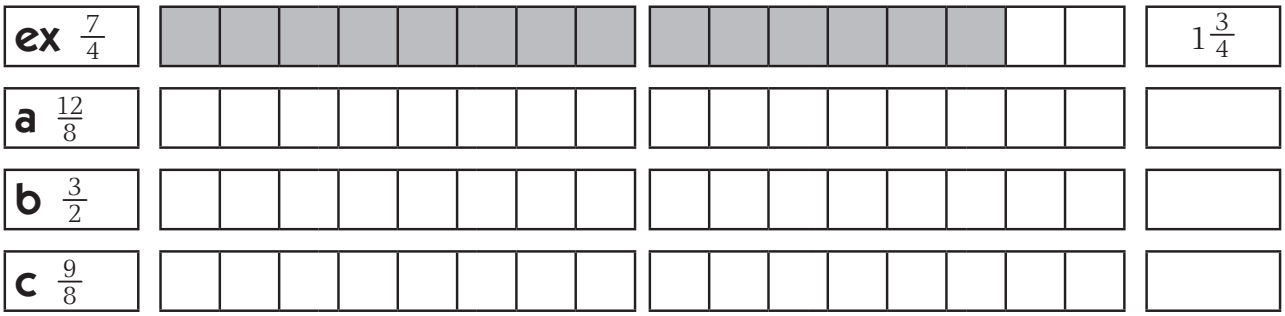
Fractions & Mixed Numbers

1 Color in the strips to show the fractions named below. Each strip represents 1 whole.



2 Color in the strips to show the improper fractions named below. Then write the fraction as a mixed number. Each strip represents 1 whole.



3 Explain how you can tell whether a fraction is greater than 1 just by looking at the numerator and denominator. A fraction is greater than 1 if:

CHALLENGE

4 A certain fraction is greater than 2. The denominator is 8. What must be true about the numerator? Explain you answer.

The numerator must be greater than _____ because:

$\frac{?}{8}$

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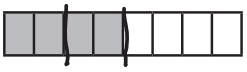
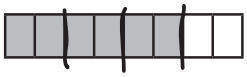
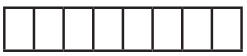
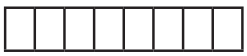
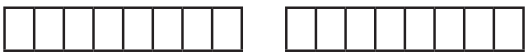
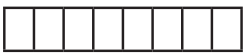
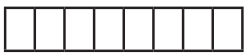
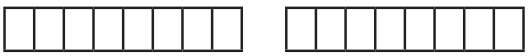
Adding Fractions

1 Show the fractions on the strips. Then add them and report the sum.

First	Second	Add Them	Sum
ex $\frac{2}{4}$ 	$\frac{3}{4}$ 		$1\frac{1}{4}$
a $\frac{3}{4}$ 	$\frac{3}{4}$ 		
b $\frac{3}{8}$ 	$\frac{1}{2}$ 		
c $\frac{5}{8}$ 	$\frac{3}{4}$ 		
d $\frac{1}{2}$ 	$\frac{7}{8}$ 		

2 If you are adding two fractions that are both greater than $\frac{1}{2}$, what must be true about the sum? The sum must be:

3 If you are adding two fractions that are both less than $\frac{1}{2}$, what must be true about the sum? The sum must be:

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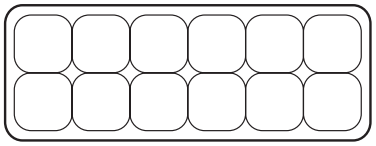
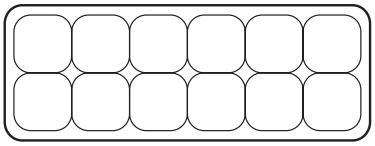
Egg Carton Fractions

1 Show the fractions on the egg cartons. Each carton represents 1 whole.

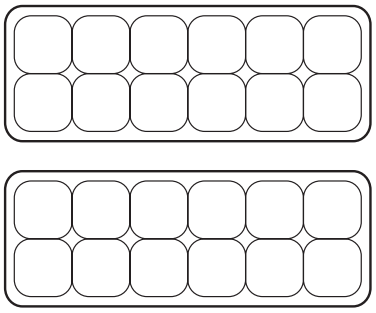
a $\frac{1}{2}$



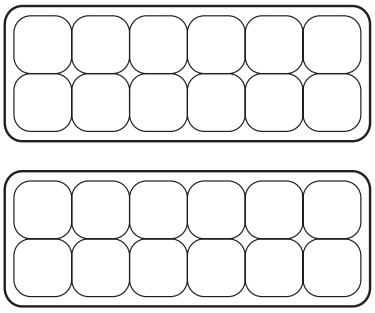
b $\frac{3}{4}$



c $1\frac{2}{3}$

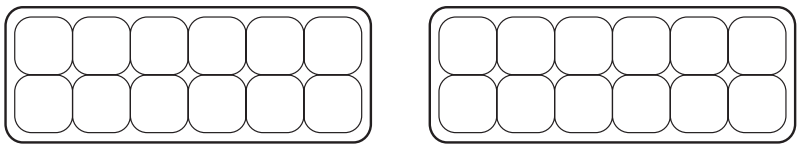


d $\frac{9}{6}$

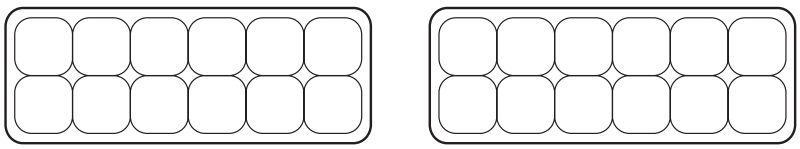


2 Add the fractions below. If the sum is greater than 1, write it as a mixed number.

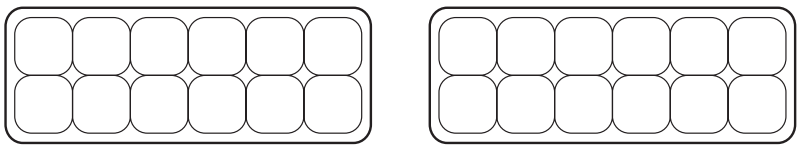
a $\frac{5}{6} + \frac{1}{2} =$



b $\frac{2}{3} + \frac{3}{6} =$



c $\frac{13}{12} + \frac{3}{4} =$



3 Use a <, >, or = sign to complete each number sentence.

a $\frac{6}{10} + \frac{11}{10}$ 1

b $\frac{11}{10} + \frac{7}{6}$ 2

c $\frac{1}{12} + \frac{3}{14}$ 1

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Thinking About Divisibility

It's easy to tell if a small number like 12 is divisible by another number. With bigger numbers, like 435, it can be harder to tell. Fill in the rules for knowing if a certain number is divisible by 5 or 10. Then figure out which numbers are divisible by each number.

Rule	Circle the numbers that are divisible by the number whose rule you just described.
ex a Finish the rule: A number is divisible by 2 if... there is 0, 2, 4, 6, or 8 in the ones place.	**b** 431 (126) (902) 463 4,595 (3,008)
1 A number is divisible by 3 if the sum of its digits is divisible by 3.	**a** 117 409 423 6,151 3,213
2a Finish the rule: A number is divisible by 5 if...	**b** 205 452 600 2,365 7,004
3 A number is divisible by 6 if the sum of its digits is divisible by 3 and it is even.	**a** 132 270 588 2,706 3,512
4 A number is divisible by 9 if the sum of its digits is divisible by 9.	**a** 225 324 965 1,809 2,584
5a Finish the rule: A number is divisible by 10 if...	**b** 208 700 810 2,304 8,430

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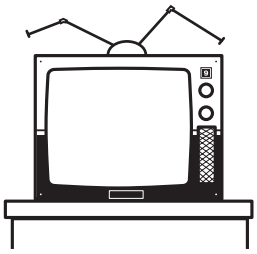
Time Problems

1 Ms. Wilson wants to spend 15 minutes conferencing with each student in her class about their writing assignment. She has 30 minutes before school starts, 30 minutes after school ends, and one 45-minute study hall during the day. If she meets with students during all of those times, how many days will it take her to meet with her 30 students? Show all your work.

2 Rhonda spends half an hour watching TV each weeknight and 2 hours each day on the weekends. How much time does she spend watching TV each week? Show all your work.



3 Frank is supposed to practice his violin for at least 6 hours a week. He played for 30 minutes on Monday, for an hour on Wednesday and on Friday, and for 45 minutes on Thursday. He didn't play at all on Tuesday. How much does he need to practice this weekend to make it at least 6 hours of practicing this week? Show all your work.

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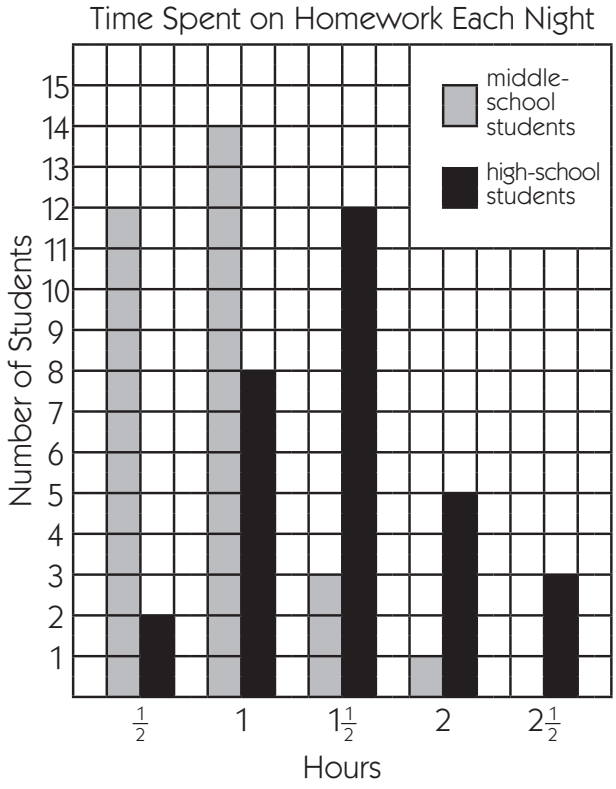
The Homework Survey

A group of teachers polled 30 middle-school and 30 high-school students to see how much time they were spending on homework each night.

1 How many middle-school students said they spent 1 hour on homework each night?

2 How many high-school students said they spent two and a half hours on homework each night?

3 How many high-school students said they spent 1 and a half hours on homework each night?



4 Overall, who spends more time on homework each night, middle-school or high-school students? Explain your answer using information from the graph above.

CHALLENGE

5 Is it easier to estimate how much time *any* middle-school student spends on homework each night or to estimate how much time *any* high-school student spends on homework each night? Explain your answer using information from the graph above.

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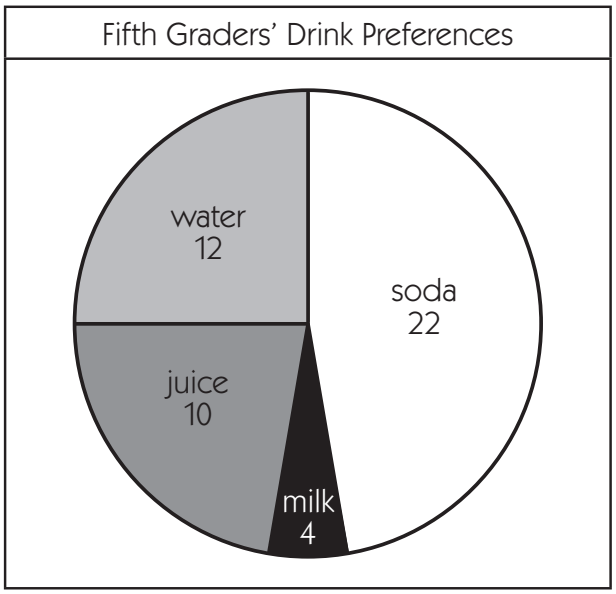
Reading & Interpreting a Circle Graph

The fifth graders were going to have a party. Their teachers wanted to see what kinds of drinks they would prefer, so they asked all 48 fifth graders what they like to drink at a party. The circle graph below shows the results.

1 Which kind of drink was the most popular?

2 Which kind of drink was the least popular?

3 Did more than half or less than half of the students prefer soda? Explain two ways you can tell by looking at the graph.



4 If the teachers decided not to serve soda, how many bottles of water, juice, and milk would you recommend they serve and why?

They should serve _____ bottles of water, _____ bottles of juice, and _____ cartons of milk. This is why:

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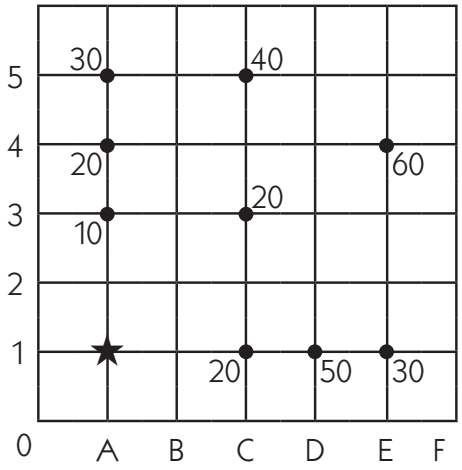
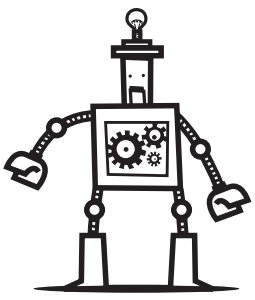
The Robot's Path

Pirate Christopher programmed a robot to collect gold pieces for him on the grid below. The numbers on the grid show how many gold pieces are at each location. The robot started at (A,1). It made just 3 turns and traveled 14 spaces before returning to its starting point with exactly 170 gold pieces. The robot *only* traveled on the horizontal and vertical grid lines.





1 If the robot makes only 3 turns and returns along the grid lines to its starting point, what shape must its path be?

2 If the robot traveled 14 spaces, what could be the dimensions of the shape you named above?

3 The robot turned at points _____, _____, and _____.

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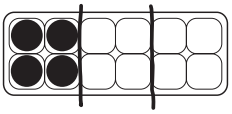
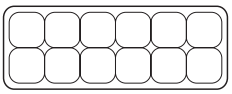
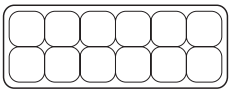
Simplifying Fractions

1 Write all the factors of each number below. Try to think of the factors in pairs.

ex 2 1, 2 **a** 4 _____ **b** 8 _____

c 3 _____ **d** 6 _____ **e** 12 _____

2 You can simplify a fraction by dividing the numerator and the denominator by the same number. If you divide the numerator and denominator by the largest factor they have in common (the greatest common factor), you can show the fraction in its simplest form. Look carefully at the example below. Then fill in the rest of the table.

Fraction	Factors of the Numerator (top number)	Factors of the Denominator (bottom number)	Greatest Common Factor	Divide to Get the Simplest Form	Picture and Equation
ex $\frac{4}{12}$	1, 2, (4)	1, 2, 3, (4) 6, 12	4	$\frac{4 \div 4}{12 \div 4} = \frac{1}{3}$	 $\frac{4}{12} = \frac{1}{3}$
a $\frac{4}{6}$				$\frac{4 \div}{6 \div} =$	 $\frac{4}{6} =$
b $\frac{3}{12}$				$\frac{3 \div}{12 \div} =$	 $\frac{3}{12} =$

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Finding Equivalent Fractions

1 Write two fractions that are equal to the fraction shown.

ex $\frac{3}{9} = \frac{1}{3}$ and $\frac{3}{9} = \frac{6}{18}$	**a** $\frac{9}{15} =$ and $\frac{9}{15} =$
b $\frac{4}{6} =$ and $\frac{4}{6} =$	**c** $\frac{15}{18} =$ and $\frac{15}{18} =$

2 Circle the fractions that are equal to the fraction shown. Use the space at right as a work space to do calculations if needed.

Fraction	Circle the fractions that are equal to the other fraction.				
ex $\frac{1}{2}$	$\frac{4}{8}$	$\frac{3}{5}$	$\frac{2}{4}$	$\frac{7}{14}$	$\frac{5}{6}$
a $\frac{4}{12}$	$\frac{1}{3}$	$\frac{2}{10}$	$\frac{8}{24}$	$\frac{6}{14}$	$\frac{12}{36}$
b $\frac{3}{4}$	$\frac{6}{7}$	$\frac{6}{8}$	$\frac{9}{12}$	$\frac{15}{20}$	$\frac{30}{40}$
c $\frac{3}{15}$	$\frac{6}{30}$	$\frac{5}{17}$	$\frac{1}{3}$	$\frac{1}{5}$	$\frac{9}{45}$

3 If you are given one fraction, what can you do to write other fractions that are equal to that fraction?

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Rewriting & Comparing More Fractions

1 Find the least common multiple of each pair of numbers.

ex The least common multiple of 8 and 28 is 56. multiples of 28: 28, 56 multiples of 8: 8, 16, 24, 32, 40, 48, 56	**a** The least common multiple of 6 and 7 is _____. multiples of 6: multiples of 7:
b The least common multiple of 9 and 12 is _____. multiples of 9: multiples of 12:	**c** The least common multiple of 9 and 15 is _____. multiples of 9: multiples of 15:

2 Rewrite each pair of fractions with a common denominator. Then use a <, >, or = to compare them in two number sentences.

Fractions	Rewritten with Common Denominator	Number Sentences
ex $\frac{6}{8}$ and $\frac{17}{28}$	$\frac{6 \times 7}{8 \times 7} = \frac{42}{56}$ $\quad \frac{17 \times 2}{28 \times 2} = \frac{34}{56}$	$\frac{42}{56} > \frac{34}{56}$ so $\frac{6}{8} > \frac{17}{28}$
a $\frac{4}{6}$ and $\frac{5}{7}$	$\frac{4 \times \_\_}{6 \times \_\_} =$ $\quad \frac{5 \times \_\_}{7 \times \_\_} =$	so $\frac{4}{6}$ $\_\_$ $\frac{5}{7}$
b $\frac{7}{9}$ and $\frac{9}{12}$	$\frac{7 \times \_\_}{9 \times \_\_} =$ $\quad \frac{9 \times \_\_}{12 \times \_\_} =$	so $\frac{7}{9}$ $\_\_$ $\frac{9}{12}$
c $\frac{8}{9}$ and $\frac{13}{15}$	$\frac{8 \times \_\_}{9 \times \_\_} =$ $\quad \frac{13 \times \_\_}{15 \times \_\_} =$	so $\frac{8}{9}$ $\_\_$ $\frac{13}{15}$

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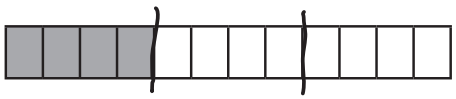
Adding Fractions

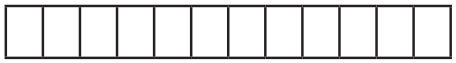
1 Each bar below is divided into 12 equal pieces. Show each fraction on a fraction bar.

ex $\frac{1}{3}$

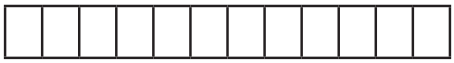


a $\frac{2}{3}$

b $\frac{1}{4}$



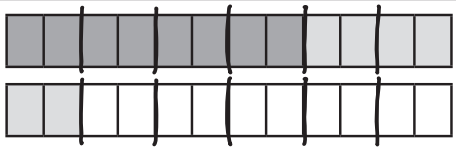
c $\frac{3}{4}$



d $\frac{1}{2}$

e $\frac{5}{6}$

2 Rewrite each pair of fractions so that they have the same denominator. Then use the fraction bar pictures to show their sum. Write an equation to show both fractions and their sum.

Fractions to Add	Rewrite with Common Denominator	Picture and Equation
ex $\frac{2}{3} + \frac{1}{2}$	$\frac{2}{3} + \frac{1}{2} = \frac{4}{6} + \frac{3}{6}$	 $\frac{4}{6} + \frac{3}{6} = \frac{7}{6}$ or $1\frac{1}{6}$
a $\frac{2}{3} + \frac{3}{4}$	$\frac{2}{3} + \frac{3}{4} =$	
b $\frac{1}{3} + \frac{5}{6}$	$\frac{1}{3} + \frac{5}{6} =$	
c $\frac{7}{12} + \frac{3}{4}$	$\frac{7}{12} + \frac{3}{4} =$	

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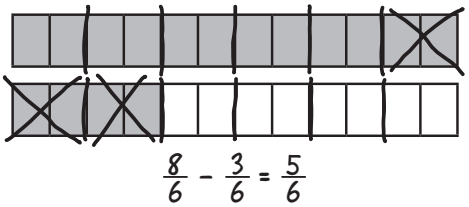
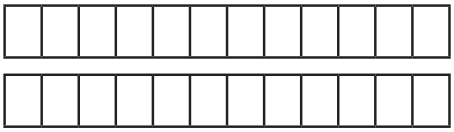
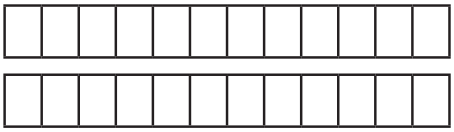
Fraction Subtraction

1 Rewrite each pair of fractions so they have the same denominator. Then use the fraction bar pictures to show their difference. Write an equation to show both fractions and their difference.

Fractions	Rewrite with Common Denominator	Picture and Equation
ex $\frac{4}{3} - \frac{1}{2}$	$\frac{4}{3} - \frac{1}{2} = \frac{8}{6} - \frac{3}{6}$	 $\frac{8}{6} - \frac{3}{6} = \frac{5}{6}$
a $\frac{3}{4} - \frac{2}{3}$	$\frac{3}{4} - \frac{2}{3} =$	
b $\frac{5}{6} - \frac{1}{3}$	$\frac{5}{6} - \frac{1}{3} =$	
c $\frac{15}{12} - \frac{3}{4}$	$\frac{15}{12} - \frac{3}{4} =$	

CHALLENGE

2 Add each pair of numbers.

a $\frac{4}{12} + \frac{7}{15} =$

b $463\frac{7}{12} + 129\frac{13}{36} =$

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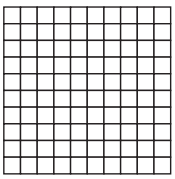
Modeling Decimals

The base ten models below can be used to represent decimal numbers.



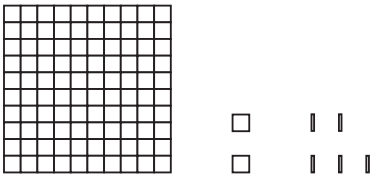
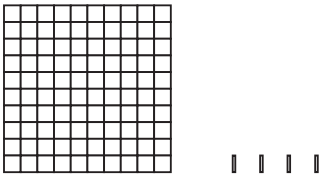
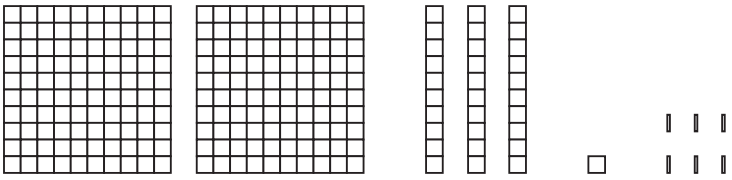
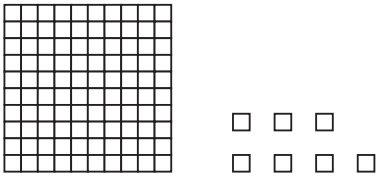
1 whole

1 tenth

1 hundredth

1 thousandth

1 Write the number that each model represents.

Model	Decimal Number
ex 	1.025
a 	
b 	
c 	

NAME _____ **DATE** _____

Adding & Subtracting Decimals

1 Complete the following addition problems.

1 1 3.034 + 1.886 4.920	4.067 + 3.290	1.437 + 1.042	7.63 +4.592	4.803 + 1.420

2.45 + 1.469 = _____ 3.043 + 1.588 = _____

2 Complete the following subtraction problems.

9 2 1 1 3.046 – 1.273 1.773	2.405 – 0.512	3.437 – 2.106	5.26 – 3.40	4.513 – 1.382

5.604 – 3.025 = _____ 6.045 – 2.039 = _____

3 Circle the pairs of numbers whose sums are greater than 2.

1.26 + 0.773 1.255 + 0.094 1.53 + 0.458 1.502 + 0.6

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Decimal Addition & Subtraction

1 Fill in the missing digits below to make the inequalities true. There will be more than one correct way to fill in each missing digit.

ex 3 < 1.5__06 + 1.5	**a** 0.705 + 1.___98 < 2
b 4 < 2.406 + 1.___09	**c** 1.620 + 1.___82 > 3

2 Complete the following addition problems.

1 1 3.034 + 1.886 4.920	12.32 + 4.099	6.005 + 12.243	17.28 + 3.8	7.853 + 3.629

3.45 + 5.062 = _____

8.049 + 4.356 = _____

3 Complete the following subtraction problems.

2 9 ~~3~~.046 – 1.273 1.773	5.38 – 2.4	4.263 – 2.051	8.03 – 3.485	12.238 – 9.065

15.204 – 8.039 = _____

13.006 – 12.058 = _____

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Decimal Story Problems

1a In the 2008 Beijing Summer Olympics, Jamaican runner Usain Bolt ran the 200 meter dash in 19.30 seconds, coming in first place and breaking the world record for that race. The runner who came in second, Churandy Martina, finished the race in 19.82 seconds. By how much did Bolt win the race? Show all your work.

b Did Bolt run the race more or less than a half-second faster than the second place finisher? Explain how you can tell.

2a In the 2008 Beijing Summer Olympics, Usain Bolt ran the 100-meter dash in 9.69 seconds. Is that less than half, exactly half, or more than half as long as it took him to run the 200-meter dash? Show all your work.

b Does your answer to part 2a make sense to you? Explain why or why not.

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Fraction Estimate & Check

Before you solve each problem, look carefully at the fractions and write what you know about the sum or difference. Then find the exact sum or difference. Show all your work. If your answer is greater than 1, write it as a mixed number, not an improper fraction.

Problem	What You Know Before You Start	Show your work.	Exact Sum or Difference
ex $\frac{8}{3} + \frac{9}{12}$	The sum is more than 3.	$\frac{32}{12} + \frac{9}{12} = \frac{41}{12}$ and $\frac{41}{12} = 3\frac{5}{12}$	$3\frac{5}{12}$
1 $\frac{4}{6} + \frac{8}{12}$			
2 $\frac{12}{8} + \frac{3}{4}$			
3 $\frac{3}{8} + \frac{8}{12}$			
4 $\frac{10}{8} - \frac{9}{12}$			
5 $\frac{5}{6} - \frac{3}{4}$			

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Lauren's Puppy

1a Lauren's puppy wasn't feeling well so she took him to the vet. The puppy weighed $4\frac{3}{4}$ pounds. The vet said she would like the puppy to gain at least $\frac{9}{16}$ of a pound by the time they came back for his checkup. When they returned for the puppy's checkup, he had gained $\frac{3}{4}$ of a pound. How much more weight did the puppy gain than he needed to? Show all your work.

b How much did the puppy weigh after he had gained $\frac{3}{4}$ of a pound? Show all your work.

2 Lauren was happy that her puppy was gaining weight, so she told her friend Andre how much the puppy weighed now. Andre had a tiny chihuahua puppy, and he said, "Wow, your puppy is a pound and a half heavier than mine!" How much does Andre's puppy weigh? Show all your work.

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Order of Operations Review

The order of operations tells you how to do calculations when there is more than one kind of operation.

Order of Operations	Example
	20 – 12 ÷ (3 + 1)
1. Anything inside parentheses	20 – 12 ÷ **(3 + 1)** = 20 – 12 ÷ 4
2. Multiplication and division from left to right	20 – **12 ÷ 4** = 20 –3
3. Addition and subtraction from left to right	**20 – 3** = 17

1 Use the order of operations above to complete each equation. Show all your work.

a _____ = 463 – 180 ÷ (3 × (2 + 3))

b (249 – 192) ÷ 3 × 14 = _____

c _____ = 36 + 14 × (182 – 164) ÷ 12

d (9 ÷ 3 + 213) – 72 ÷ 4 = _____

2 Insert parentheses to make each equation true. Show all your work.

a 3 × 9 + 18 + 36 ÷ 9 = 33

b 2 = 140 ÷ 2 + 12 – 4 × 2

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Reviewing Three Number Properties

If you are adding or multiplying, you can change the order of the numbers or the way they are grouped to make the calculations easier. The three properties below can make mental math easier.

Commutative Property	Associative Property	Distributive Property
Changing the order of two numbers or numerical expressions when you add or multiply does not change the answer.	Changing the way you group three numbers or numerical expressions when you add or multiply does not change the answer.	You can break a number apart, multiply each part separately, and then add the products. You will still get the same answer.
$5 + 2 = 2 + 5$ $5 \times 2 = 2 \times 5$	$(38 \times 4) \times 25 = 38 \times (4 \times 25)$ $= 38 \times 100$ $= 3{,}800$	$6 \times 13 = 6 \times (10 + 3)$ $= 6 \times 10 + 6 \times 3$ $= 60 + 18$ $= 78$

1 For each problem below:

- Write it a different way so it is easier to solve in your head.
- Solve it and write the answer.
- Circle C if you switched the order of the numbers.
- Circle A if you grouped the numbers in a different way.
- Circle D if you broke the number apart and multiplied one part at a time.
- You may need to circle more than one property.

Problem	Rewrite	Answer	Property
ex $(70 + 469) + 30$	$(70 + 30) + 469$	569	(C) (A) D
a 12×23			C A D
b $(50 \times 73) \times 2$			C A D
c $15 + (135 + 86)$			C A D
d 35×8			C A D
e $25 \times (4 \times 329)$			C A D
f $(34 \times 50) \times 20$			C A D

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Finding Patterns & Solving Problems

1 Find a pattern and use it to fill in the next 3 numbers in each sequence below. Then explain how you did it.

ex	4	7	10	13	16	19	22	25
		+3	+3	+3	+3	+3	+3	+3
Explanation: I added 3 more each time.								
a	1	10	19	28	37	_____	_____	_____
Explanation:								
b	197	186	175	164	153	_____	_____	_____
Explanation:								
c	1	3	9	27	81	_____	_____	_____
Explanation:								
d	1	2	4	8	16	_____	_____	_____
Explanation:								

CHALLENGE

2 Look at the example from problem 1:

4, 7, 10, 13, 16, 19, 22, 25 ...

a What would be the 30th number in the sequence? Show all your work.

b What would be the 100th number in the sequence? Show all your work.

c Would the 876th number in the sequence be odd or even? Explain how you can tell.

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Variables & Expressions

Sometimes people use letters to represent unspecified amounts. Such letters are called *variables*. For example, if you worked for $6 an hour, you would multiply the time you worked by 6 to find out what you earned. If we let t represent the time you worked, we could show the amount of money you earned with this expression.

$$6 \times t$$

When we say, "evaluate the expression when $t = 3$," we mean, "figure out how much money you would make if you worked for 3 hours." To do this, substitute 3 for t and complete the calculation:

Evaluate the expression $6 \times t$ when $t = 3$.

$6 \times 3 = 18$ This means you would earn $18 if you worked for 3 hours at $6 per hour.

1 Evaluate the expression $6 \times t$ when:

a $t = 2$

b $t = 4$

c $t = 5$

d $t = 8$

2 How much money would you make if you worked 15 hours and earned $6 per hour?

3 Evaluate the following expressions when each variable has the value shown. Use order of operations when you need to.

ex $4 + b$ when $b = 10$ $4 + 10 = 14$
a $4 + b$ when $b = 23$
b $4 + b$ when $b = 103$
c $3 \times n - 2$ when $n = 2$
d $3 \times n - 2$ when $n = 4$
e $2 \times k + 12$ when $k = 7$
f $2 \times k + 12$ when $k = 10$

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Cheetahs & Muffins

1a Isabel works at the city zoo. She is in charge of feeding the cheetahs. Each cheetah needs to eat 5 pounds of food each day. Which expression shows how much food the cheetahs will eat altogether each day? (The letter *c* stands for the number of cheetahs at the zoo.)

◯ $5 + c$ ◯ $c - 5$ ◯ $5 \times c$ ◯ $c \div 5$

b There are 6 cheetahs at the zoo now. How much food do they eat each day? Show all your work.

c The zoo is thinking about getting some more cheetahs. Isabel can afford to buy 70 pounds of food each day. How many cheetahs would that feed? Show all your work.

2a Every weekend Clarice and her dad bake some muffins and give 8 of them to their neighbors for breakfast on Sunday. Which expression shows how many muffins they have left over for themselves each week? (The letter *m* stands for the number of muffins they baked.)

◯ $8 + m$ ◯ $m - 8$ ◯ $8 \times m$ ◯ $m \div 8$

b If they baked 24 muffins last weekend, how many did they have left for themselves? Show all your work.

c If they wanted to have 12 muffins left for themselves, how many would they need to bake? Show all your work.

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Adding Fractions with Different Denominators

Here is a quick way to add fractions with different denominators.

Original Problem	$\frac{3}{4} + \frac{5}{6}$
1. Multiply the denominators by each other to get a common denominator.	$4 \times 6 = 24$
2. Rewrite each fraction as an equivalent fraction with the common denominator.	$\frac{3 \times 6}{4 \times 6} = \frac{18}{24}$ $\frac{5 \times 4}{6 \times 4} = \frac{20}{24}$
3. Add the fractions.	$\frac{18}{24} + \frac{20}{24} = \frac{38}{24}$
4. Reduce the sum to lowest form and express as a mixed number if greater than 1.	$38 - 24 = 14$ $\frac{38}{12} = 1\frac{14}{24}$ $1\frac{14}{24} = 1\frac{7}{12}$

1 Follow the steps at left to add each pair of fractions.

a

$\frac{1}{6} + \frac{7}{9}$

b

$\frac{5}{8} + \frac{11}{12}$

c

$\frac{3}{5} + \frac{4}{11}$

d

$\frac{10}{16} + \frac{5}{9}$

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Subtracting Fractions with Different Denominators

Here is a quick way to subtract fractions with different denominators.

Original Problem	$\frac{5}{6} - \frac{3}{4}$
1. Multiply the denominators by each other to get a common denominator.	$6 \times 4 = 24$
2. Rewrite each fraction as an equivalent fraction with the common denominator.	$\frac{5 \times 4}{6 \times 4} = \frac{20}{24}$ $\frac{3 \times 6}{4 \times 6} = \frac{18}{24}$
3. Subtract the smaller fraction from the larger fraction.	$\frac{20}{24} - \frac{18}{24} = \frac{2}{24}$
4. Reduce the difference to lowest form and express as a mixed number if greater than 1.	$\frac{2}{24} = \frac{1}{12}$

1 Follow the steps at left to find the difference between each pair of fractions.

a

$\frac{4}{5} - \frac{2}{7}$

b

$\frac{2}{3} - \frac{3}{5}$

c

$\frac{5}{6} - \frac{1}{4}$

d

$\frac{8}{13} - \frac{3}{8}$

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Fraction Addition & Subtraction Review

1 Find the sum or the difference for each pair of fractions.

a $\frac{5}{6} - \frac{2}{5} =$	**b** $\frac{1}{3} + \frac{6}{7} =$

2 Annie ran $\frac{5}{8}$ of a mile. Her sister Mabel ran $\frac{7}{10}$ of a mile. Who ran farther and by exactly how much? Show all of your work.

3 Juan and his mom hiked $\frac{3}{8}$ of a mile this morning and $\frac{4}{5}$ of a mile this afternoon. How much did they hike today? Show all of your work.

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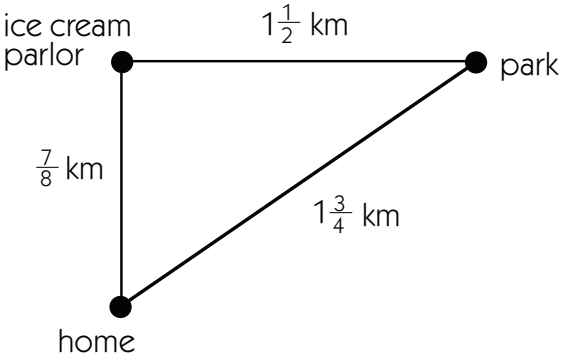
More Fraction Problems

1 Fill in the missing fraction or mixed number in each equation.

ex $1\frac{3}{4} + \frac{1}{4} = 2$	**a** $1 = \frac{6}{10} +$ _____	**b** $2 = 1\frac{4}{12} +$ _____
c $3 =$ _____ $+ 1\frac{7}{8}$	**d** $2 = \frac{10}{12} +$ _____	**e** $2\frac{6}{8} +$ _____ $= 4$

2 Calvin and his family were going on a walk. They wanted to walk to the park, then go to the ice cream parlor, and finally walk home. The map below shows their path and the distances between each stop. How many kilometers will they walk in all? Show all your work.



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Decimal Addition & Subtraction Review

1 Fill in the missing digit so that each sum is *greater* than 1. In some cases, there will be more than one correct answer.

ex 0.106 + 0.9_02	**a** 0.512 + 0.4___6
b 0.920 + 0.___98	**c** 0.386 + 0.61___

2 Complete the following addition problems.

1 1 3.034 + 1.886 4.920	2.006 + 7.989	3.080 + 14.513	24.38 + 5.9	7.608 + 2.600

3.27 + 5.049 = _____ 4.438 + 1.96 = _____

3 Complete the following subtraction problems.

3.046 – 1.273 1.773	3.675 – 0.947	4.438 – 2.210	10.17 – 8.99	13.154 – 8.083

9.056 – 5.27 = _____ 27.003 – 26.09 = _____

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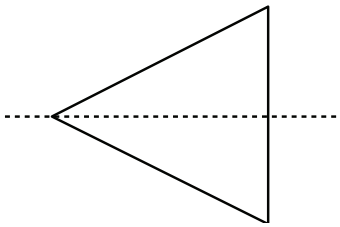
Drawing Lines of Symmetry

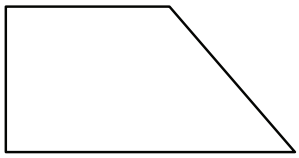
Draw all the lines of symmetry in each figure. There may be 1 line of symmetry, more than 1 line of symmetry, or no lines of symmetry.

ex



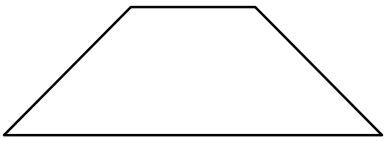
This figure has 1 line(s) of symmetry.

1



This figure has _____ line(s) of symmetry.

2

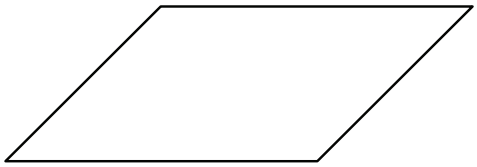


This figure has _____ line(s) of symmetry.

3

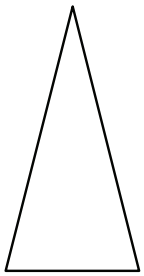
This figure has _____ line(s) of symmetry.

4



This figure has _____ line(s) of symmetry.

5



This figure has _____ line(s) of symmetry.

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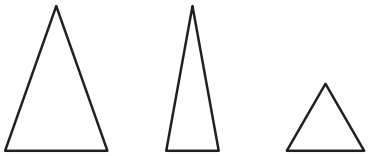
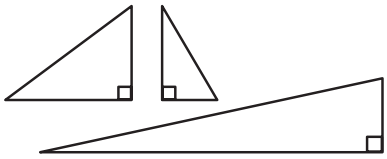
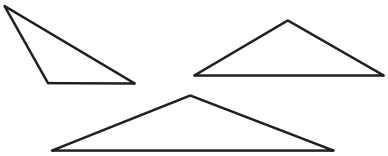
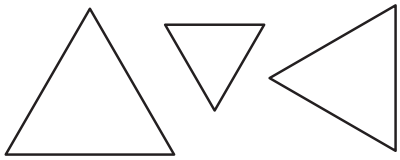
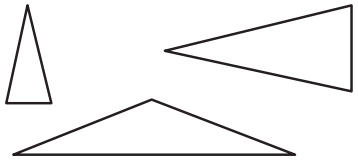
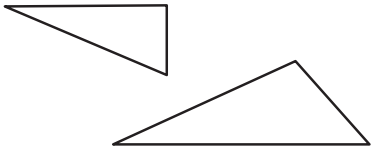
Classifying Triangles Review

Use the following information to solve the problems below.

- You can group triangles by the size of their angles

Acute triangles	Right triangles	Obtuse triangles
All 3 angles are acute.	1 angle is a right angle.	1 angle is an obtuse angle.
		

- You can also group triangles by the lengths of their sides

Equilateral triangles	Isosceles triangles	Scalene triangles
All 3 sides are the same length.	2 sides are the same length.	No sides are the same length.
		

1 Think carefully about each kind of triangle and draw them if you like. What is the greatest possible number of lines of symmetry each kind of triangle below can have? Explain your answer with words and/or sketches.

a Acute triangles can have no more than _____ lines of symmetry.	Why?
b Right triangles can have no more than _____ lines of symmetry.	Why?
c Obtuse triangles can have no more than _____ lines of symmetry.	Why?

Summer Work Packet

Math - Fluency Practice
Multiplication

Name:	Date:
Teacher:	Part 3: Beyond the Basic Times Tables

Multiply by 2

Write out the partial products then add them in your head.

To multiply **2** times a double-digit number, break the number into two parts. Multiply **2** times the first part then **2** times the second part. Add these "partial products" to get the total product.

2 x 17 = (2 x 10) + (2 x 7)
= 20 + 14
= **34**

		Think Smart		Think Quick
1.	2 x 15	(2x10) + (2x5) = ☐ + ☐		2 x 15 = ☐
2.	2 x 14	(2x10) + (2x4) = ☐ + ☐		2 x 14 = ☐
3.	2 x 11	(2x10) + (2x1) = ☐ + ☐		2 x 11 = ☐
4.	2 x 13	(2x10) + (2x3) = ☐ + ☐		2 x 13 = ☐
5.	2 x 12	(2x10) + (2x2) = ☐ + ☐		2 x 12 = ☐
6.	2 x 18	(2x10) + (2x8) = ☐ + ☐		2 x 18 = ☐
7.	2 x 16	(2x10) + (2x6) = ☐ + ☐		2 x 16 = ☐
8.	2 x 19	(2x10) + (2x9) = ☐ + ☐		2 x 19 = ☐
9.	2 x 17	(2x10) + (2x7) = ☐ + ☐		2 x 17 = ☐
10.	2 x 20	(2x10) + (2x10) = ☐ + ☐		2 x 20 = ☐

Name:	Date:
Teacher:	Part 3: Beyond the Basic Times Tables

Multiply by 3

Write out the partial products then add them in your head.

To multiply **3** times a double-digit number, break the number into two parts. Multiply **3** times the first part then **3** times the second part. Add these "partial products" to get the total product.

3 x 17 = (3 x 10) + (3 x 7)
= 30 + 21
= **51**

		Think Smart		Think Quick
1.	3 x 15	(3x10) + (3x5) = ☐ + ☐		3 x 15 = ☐
2.	3 x 14	(3x10) + (3x4) = ☐ + ☐		3 x 14 = ☐
3.	3 x 11	(3x10) + (3x1) = ☐ + ☐		3 x 11 = ☐
4.	3 x 13	(3x10) + (3x3) = ☐ + ☐		3 x 13 = ☐
5.	3 x 12	(3x10) + (3x2) = ☐ + ☐		3 x 12 = ☐
6.	3 x 18	(3x10) + (3x8) = ☐ + ☐		3 x 18 = ☐
7.	3 x 16	(3x10) + (3x6) = ☐ + ☐		3 x 16 = ☐
8.	3 x 19	(3x10) + (3x9) = ☐ + ☐		3 x 19 = ☐
9.	3 x 17	(3x10) + (3x7) = ☐ + ☐		3 x 17 = ☐
10.	3 x 20	(3x10) + (3x10) = ☐ + ☐		3 x 20 = ☐

Name:	Date:
Teacher:	Part 3: Beyond the Basic Times Tables

Multiply by 4

Write out the partial products then add them in your head.

To multiply **4** times a double-digit number, break the number into two parts. Multiply **4** times the first part then **4** times the second part. Add these "partial products" to get the total product.

4 x 17 = (4 x 10) + (4 x 7)
= 40 + 28
= **68**

		Think Smart		Think Quick
1.	4 x 15	(4x10) + (4x5) = ☐ + ☐		4 x 15 = ☐
2.	4 x 14	(4x10) + (4x4) = ☐ + ☐		4 x 14 = ☐
3.	4 x 11	(4x10) + (4x1) = ☐ + ☐		4 x 11 = ☐
4.	4 x 13	(4x10) + (4x3) = ☐ + ☐		4 x 13 = ☐
5.	4 x 12	(4x10) + (4x2) = ☐ + ☐		4 x 12 = ☐
6.	4 x 18	(4x10) + (4x8) = ☐ + ☐		4 x 18 = ☐
7.	4 x 16	(4x10) + (4x6) = ☐ + ☐		4 x 16 = ☐
8.	4 x 19	(4x10) + (4x9) = ☐ + ☐		4 x 19 = ☐
9.	4 x 17	(4x10) + (4x7) = ☐ + ☐		4 x 17 = ☐
10.	4 x 20	(4x10) + (4x10) = ☐ + ☐		4 x 20 = ☐

Name:	Date:
Teacher:	Part 3: Beyond the Basic Times Tables

Multiply by 8

Write out the partial products then add them in your head.

To multiply **8** times a double-digit number, break the number into two parts. Multiply **8** times the first part then **8** times the second part. Add these "partial products" to get the total product.

8 x 17 = (8 x 10) + (8 x 7)
= 80 + 56
= **136**

		Think Smart		Think Quick
1.	8 x 15	(8x10) + (8x5) = ☐ + ☐		8 x 15 = ☐
2.	8 x 14	(8x10) + (8x4) = ☐ + ☐		8 x 14 = ☐
3.	8 x 11	(8x10) + (8x1) = ☐ + ☐		8 x 11 = ☐
4.	8 x 13	(8x10) + (8x3) = ☐ + ☐		8 x 13 = ☐
5.	8 x 12	(8x10) + (8x2) = ☐ + ☐		8 x 12 = ☐
6.	8 x 18	(8x10) + (8x8) = ☐ + ☐		8 x 18 = ☐
7.	8 x 16	(8x10) + (8x6) = ☐ + ☐		8 x 16 = ☐
8.	8 x 19	(8x10) + (8x9) = ☐ + ☐		8 x 19 = ☐
9.	8 x 17	(8x10) + (8x7) = ☐ + ☐		8 x 17 = ☐
10.	8 x 20	(8x10) + (8x10) = ☐ + ☐		8 x 20 = ☐

Name:	Date:
Teacher:	Part 3: Beyond the Basic Times Tables

Multiply by 9

Write out the partial products then add them in your head.

To multiply **9** times a double-digit number, break the number into two parts. Multiply **9** times the first part then **9** times the second part. Add these "partial products" to get the total product.

9 x 17 = (9 x 10) + (9 x 7)
= 90 + 63
= **153**

		Think Smart		Think Quick
1.	9 x 15	(9x10) + (9x5) = ☐ + ☐		9 x 15 = ☐
2.	9 x 14	(9x10) + (9x4) = ☐ + ☐		9 x 14 = ☐
3.	9 x 11	(9x10) + (9x1) = ☐ + ☐		9 x 11 = ☐
4.	9 x 13	(9x10) + (9x3) = ☐ + ☐		9 x 13 = ☐
5.	9 x 12	(9x10) + (9x2) = ☐ + ☐		9 x 12 = ☐
6.	9 x 18	(9x10) + (9x8) = ☐ + ☐		9 x 18 = ☐
7.	9 x 16	(9x10) + (9x6) = ☐ + ☐		9 x 16 = ☐
8.	9 x 19	(9x10) + (9x9) = ☐ + ☐		9 x 19 = ☐
9.	9 x 17	(9x10) + (9x7) = ☐ + ☐		9 x 17 = ☐
10.	9 x 20	(9x10) + (9x10) = ☐ + ☐		9 x 20 = ☐

Name:	Date:
Teacher:	Part 3: Beyond the Basic Times Tables

Multiply by 10

Write out the partial products then add them in your head.

To multiply **10** times a double-digit number, break the number into two parts. Multiply **10** times the first part then **10** times the second part. Add these "partial products" to get the total product.

10 x 17 = (10 x 10) + (10 x 7)
= 100 + 70
= **170**

		Think Smart		Think Quick
1.	10 x 15	(10x10) + (10x5) = ☐ + ☐		10 x 15 = ☐
2.	10 x 14	(10x10) + (10x4) = ☐ + ☐		10 x 14 = ☐
3.	10 x 11	(10x10) + (10x1) = ☐ + ☐		10 x 11 = ☐
4.	10 x 13	(10x10) + (10x3) = ☐ + ☐		10 x 13 = ☐
5.	10 x 12	(10x10) + (10x2) = ☐ + ☐		10 x 12 = ☐
6.	10 x 18	(10x10) + (10x8) = ☐ + ☐		10 x 18 = ☐
7.	10 x 16	(10x10) + (10x6) = ☐ + ☐		10 x 16 = ☐
8.	10 x 19	(10x10) + (10x9) = ☐ + ☐		10 x 19 = ☐
9.	10 x 17	(10x10) + (10x7) = ☐ + ☐		10 x 17 = ☐
10.	10 x 20	(10x10) + (10x10) = ☐ + ☐		10 x 20 = ☐

Name:	Date:
Teacher:	Part 3: Beyond the Basic Times Tables

Multiply by 11

Write out the partial products then add them in your head.

A group of 11 is a group of 10 plus a group of 1. So 11 times a number is **10** times the number plus **1** times the number. The sum of the "partial products" is the total product or answer.

11 x 7 = (10 x 7) + (1 x 7)
= 70 + 7
= **77**

		Think Smart		Think Quick
1.	11 x 5	(10x5) + (1x5) =	+	11 x 5 =
2.	11 x 4	(10x4) + (1x4) =	+	11 x 4 =
3.	11 x 1	(10x1) + (1x1) =	+	11 x 1 =
4.	11 x 3	(10x3) + (1x3) =	+	11 x 3 =
5.	11 x 2	(10x2) + (1x2) =	+	11 x 2 =
6.	11 x 8	(10x8) + (1x8) =	+	11 x 8 =
7.	11 x 6	(10x6) + (1x6) =	+	11 x 6 =
8.	11 x 9	(10x9) + (1x9) =	+	11 x 9 =
9.	11 x 7	(10x7) + (1x7) =	+	11 x 7 =
10.	11 x 10	(10x10) + (1x10) =	+	11 x 10 =

Name:	Date:
Teacher:	Part 3: Beyond the Basic Times Tables

Multiply by 12

Write out the partial products then add them in your head.

12 times a number is **10** times the number plus **2** times the number. The sum of these "partial products" is the total product or answer.

12 x 7 = (10 x 7) + (2 x 7)
= 70 + 14
= **84**

		Think Smart		Think Quick
1.	12 x 5	(10x5) + (2x5) = ☐ + ☐		12 x 5 = ☐
2.	12 x 4	(10x4) + (2x4) = ☐ + ☐		12 x 4 = ☐
3.	12 x 1	(10x1) + (2x1) = ☐ + ☐		12 x 1 = ☐
4.	12 x 3	(10x3) + (2x3) = ☐ + ☐		12 x 3 = ☐
5.	12 x 2	(10x2) + (2x2) = ☐ + ☐		12 x 2 = ☐
6.	12 x 8	(10x8) + (2x8) = ☐ + ☐		12 x 8 = ☐
7.	12 x 6	(10x6) + (2x6) = ☐ + ☐		12 x 6 = ☐
8.	12 x 9	(10x9) + (2x9) = ☐ + ☐		12 x 9 = ☐
9.	12 x 7	(10x7) + (2x7) = ☐ + ☐		12 x 7 = ☐
10.	12 x 10	(10x10) + (2x10) = ☐ + ☐		12 x 10 = ☐

Name:	Date:
Teacher:	Part 3: Beyond the Basic Times Tables

Multiply by 20

Write out the partial products then add them in your head.

20 times a number is **10** times the number plus **10** times the number. The sum of these "partial products" is the total product or answer.	**20 x 7** = (10 x 7) +(10 x 7) = 70 + 70 = **140**

		Think Smart		Think Quick
1.	20 x 5	(10x5) + (10x5) = ☐ + ☐		20 x 5 = ☐
2.	20 x 4	(10x4) + (10x4) = ☐ + ☐		20 x 4 = ☐
3.	20 x 1	(10x1) + (10x1) = ☐ + ☐		20 x 1 = ☐
4.	20 x 3	(10x3) + (10x3) = ☐ + ☐		20 x 3 = ☐
5.	20 x 2	(10x2) + (10x2) = ☐ + ☐		20 x 2 = ☐
6.	20 x 8	(10x8) + (10x8) = ☐ + ☐		20 x 8 = ☐
7.	20 x 6	(10x6) + (10x6) = ☐ + ☐		20 x 6 = ☐
8.	20 x 9	(10x9) + (10x9) = ☐ + ☐		20 x 9 = ☐
9.	20 x 7	(10x7) + (10x7) = ☐ + ☐		20 x 7 = ☐
10.	20 x 10	(10x10) + (10x10) = ☐ + ☐		20 x 10 = ☐

Name:	Date:
Teacher:	Part 3: Beyond the Basic Times Tables

Multiply by 2

Now do everything in your head!

To multiply **2** times a double-digit number, break the number into two parts. Multiply **2** times the first part then **2** times the second part. Add these "partial products" to get the total product.

2 x 17 = (2 x 10) + (2 x 7)
= 20 + 14
= **34**

		Think Smart	Think Quick
1.	2 x 15	(2x10) + (2x5)	2 x 15 =
2.	2 x 14	(2x10) + (2x4)	2 x 14 =
3.	2 x 11	(2x10) + (2x1)	2 x 11 =
4.	2 x 13	(2x10) + (2x3)	2 x 13 =
5.	2 x 12	(2x10) + (2x2)	2 x 12 =
6.	2 x 18	(2x10) + (2x8)	2 x 18 =
7.	2 x 16	(2x10) + (2x6)	2 x 16 =
8.	2 x 19	(2x10) + (2x9)	2 x 19 =
9.	2 x 17	(2x10) + (2x7)	2 x 17 =
10.	2 x 20	(2x10) + (2x10)	2 x 20 =

Name:	Date:
Teacher:	Part 3: Beyond the Basic Times Tables

Multiply by 3

Now do everything in your head!

To multiply **3** times a double-digit number, break the number into two parts. Multiply **3** times the first part then **3** times the second part. Add these "partial products" to get the total product.

3 x 17 = (3 x 10) + (3 x 7)
= 30 + 21
= **51**

		Think Smart	Think Quick
1.	3 x 15	(3x10) + (3x5)	3 x 15 =
2.	3 x 14	(3x10) + (3x4)	3 x 14 =
3.	3 x 11	(3x10) + (3x1)	3 x 11 =
4.	3 x 13	(3x10) + (3x3)	3 x 13 =
5.	3 x 12	(3x10) + (3x2)	3 x 12 =
6.	3 x 18	(3x10) + (3x8)	3 x 18 =
7.	3 x 16	(3x10) + (3x6)	3 x 16 =
8.	3 x 19	(3x10) + (3x9)	3 x 19 =
9.	3 x 17	(3x10) + (3x7)	3 x 17 =
10.	3 x 20	(3x10) + (3x10)	3 x 20 =

Name:	Date:
Teacher:	Part 3: Beyond the Basic Times Tables

Multiply by 5

Now do everything in your head!

To multiply **5** times a double-digit number, break the number into two parts. Multiply **5** times the first part then **5** times the second part. Add these "partial products" to get the total product.

5 x 17 = (5 x 10) + (5 x 7)
= 50 + 35
= **85**

		Think Smart	Think Quick
1.	5 x 15	(5x10) + (5x5)	5 x 15 =
2.	5 x 14	(5x10) + (5x4)	5 x 14 =
3.	5 x 11	(5x10) + (5x1)	5 x 11 =
4.	5 x 13	(5x10) + (5x3)	5 x 13 =
5.	5 x 12	(5x10) + (5x2)	5 x 12 =
6.	5 x 18	(5x10) + (5x8)	5 x 18 =
7.	5 x 16	(5x10) + (5x6)	5 x 16 =
8.	5 x 19	(5x10) + (5x9)	5 x 19 =
9.	5 x 17	(5x10) + (5x7)	5 x 17 =
10.	5 x 20	(5x10) + (5x10)	5 x 20 =

Name:	Date:
Teacher:	Part 3: Beyond the Basic Times Tables

Multiply by 10

Now do everything in your head!

To multiply **10** times a double-digit number, break the number into two parts. Multiply **10** times the first part then **10** times the second part. Add these "partial products" to get the total product.

10 x 17 = (10 x 10) + (10 x 7)
= 100 + 70
= **170**

		Think Smart	Think Quick
1.	10 x 15	(10x10) + (10x5)	10 x 15 =
2.	10 x 14	(10x10) + (10x4)	10 x 14 =
3.	10 x 11	(10x10) + (10x1)	10 x 11 =
4.	10 x 13	(10x10) + (10x3)	10 x 13 =
5.	10 x 12	(10x10) + (10x2)	10 x 12 =
6.	10 x 18	(10x10) + (10x8)	10 x 18 =
7.	10 x 16	(10x10) + (10x6)	10 x 16 =
8.	10 x 19	(10x10) + (10x9)	10 x 19 =
9.	10 x 17	(10x10) + (10x7)	10 x 17 =
10.	10 x 20	(10x10) + (10x10)	10 x 20 =

Name:	Date:
Teacher:	Part 3: Beyond the Basic Times Tables

Multiply by 20

Now do everything in your head!

20 times a number is **10** times the number plus **10** times the number. The sum of these "partial products" is the total product or answer.

20 x 7 = (10 x 7) +(10 x 7)
= 70 + 70
= **140**

		Think Smart	Think Quick
1.	20 x 5	(10x5) + (10x5)	20 x 5 =
2.	20 x 4	(10x4) + (10x4)	20 x 4 =
3.	20 x 1	(10x1) + (10x1)	20 x 1 =
4.	20 x 3	(10x3) + (10x3)	20 x 3 =
5.	20 x 2	(10x2) + (10x2)	20 x 2 =
6.	20 x 8	(10x8) + (10x8)	20 x 8 =
7.	20 x 6	(10x6) + (10x6)	20 x 6 =
8.	20 x 9	(10x9) + (10x9)	20 x 9 =
9.	20 x 7	(10x7) + (10x7)	20 x 7 =
10.	20 x 10	(10x10) + (10x10)	20 x 10 =

Summer Work Packet

Math - Fluency Practice
Division

Name: _____ Strategy: Division - Partials

Date: _____ Worksheet: 1-Partials

Partials Division Strategy: Instead of dividing a big number all at once, first break it into parts and divide the parts. Add the resulting "partial quotients" to get the total quotient or answer.

Example

What is 91 ÷ 7?
91 is 70 plus 21.
Divide 70 by 7 to get 10.
Divide 21 by 7 to get 3.
The answer is 10+3 = **13**.

91 ÷ 7 ⇨ 70 21

Partial 1		Partial 2		Answer
10	+	**3**	=	**13**
70 ÷ 7		21 ÷ 7		

1. **96 ÷ 6** ⇨ 60 36 → 60 ÷ 6 + 36 ÷ 6 = ☐

2. **80 ÷ 5** ⇨ 50 30 → 50 ÷ 5 + 30 ÷ 5 = ☐

3. **153 ÷ 9** ⇨ 90 63 → 90 ÷ 9 + 63 ÷ 9 = ☐

4. **64 ÷ 4** ⇨ 40 24 → 40 ÷ 4 + 24 ÷ 4 = ☐

5. **34 ÷ 2** ⇨ 20 14 → 20 ÷ 2 + 14 ÷ 2 = ☐

6. **133 ÷ 7** ⇨ 70 63 → 70 ÷ 7 + 63 ÷ 7 = ☐

7. **128 ÷ 8** ⇨ 80 48 → 80 ÷ 8 + 48 ÷ 8 = ☐

8. **48 ÷ 3** ⇨ 30 18 → 30 ÷ 3 + 18 ÷ 3 = ☐

9. **56 ÷ 4** ⇨ 40 16 → 40 ÷ 4 + 16 ÷ 4 = ☐

10. **55 ÷ 5** ⇨ 50 5 → 50 ÷ 5 + 5 ÷ 5 = ☐

Name: _____ Strategy: Division - Partials

Date: _____ Worksheet: 5-Partials

Partials Division Strategy: Instead of dividing a big number all at once, first break it into parts and divide the parts. Add the resulting "partial quotients" to get the total quotient or answer.

Example

What is 42 ÷ 3?
42 is 30 plus 12.
Divide 30 by 3 to get 10.
Divide 12 by 3 to get 4.
The answer is 10+4 = **14**.

42 ÷ 3 ⇨ 30 12

Partial 1		Partial 2		Answer
10	+	**4**	=	**14**
30 ÷ 3		12 ÷ 3		

1. **98 ÷ 7** ⇨ 70 28 → [ ] + [ ] = [ ] (70 ÷ 7, 28 ÷ 7)

2. **95 ÷ 5** ⇨ 50 45 → [ ] + [ ] = [ ] (50 ÷ 5, 45 ÷ 5)

3. **84 ÷ 6** ⇨ 60 24 → [ ] + [ ] = [ ] (60 ÷ 6, 24 ÷ 6)

4. **117 ÷ 9** ⇨ 90 27 → [ ] + [ ] = [ ] (90 ÷ 9, 27 ÷ 9)

5. **24 ÷ 2** ⇨ 20 4 → [ ] + [ ] = [ ] (20 ÷ 2, 4 ÷ 2)

6. **65 ÷ 5** ⇨ 50 15 → [ ] + [ ] = [ ] (50 ÷ 5, 15 ÷ 5)

7. **144 ÷ 8** ⇨ 80 64 → [ ] + [ ] = [ ] (80 ÷ 8, 64 ÷ 8)

8. **108 ÷ 9** ⇨ 90 18 → [ ] + [ ] = [ ] (90 ÷ 9, 18 ÷ 9)

9. **51 ÷ 3** ⇨ 30 21 → [ ] + [ ] = [ ] (30 ÷ 3, 21 ÷ 3)

10. **102 ÷ 6** ⇨ 60 42 → [ ] + [ ] = [ ] (60 ÷ 6, 42 ÷ 6)

Name: _____ Strategy: Division - Partials

Date: _____ Worksheet: 9-Partials

Partials Division Strategy: Instead of dividing a big number all at once, first break it into parts and divide the parts. Add the resulting "partial quotients" to get the total quotient or answer.

Example

What is 96 ÷ 6?
96 is 60 plus 36.
Divide 60 by 6 to get 10.
Divide 36 by 6 to get 6.
The answer is 10+6 = **16**.

96 ÷ 6 ⇨ (60 36)

Partial 1		Partial 2		Answer
10	+	**6**	=	**16**
60 ÷ 6		36 ÷ 6		

1. **85 ÷ 5** ⇨ (50 35) ☐ + ☐ = ☐
   50 ÷ 5 | 35 ÷ 5

2. **36 ÷ 2** ⇨ (20 16) ☐ + ☐ = ☐
   20 ÷ 2 | 16 ÷ 2

3. **42 ÷ 3** ⇨ (30 12) ☐ + ☐ = ☐
   30 ÷ 3 | 12 ÷ 3

4. **144 ÷ 9** ⇨ (90 54) ☐ + ☐ = ☐
   90 ÷ 9 | 54 ÷ 9

5. **72 ÷ 4** ⇨ (40 32) ☐ + ☐ = ☐
   40 ÷ 4 | 32 ÷ 4

6. **171 ÷ 9** ⇨ (90 81) ☐ + ☐ = ☐
   90 ÷ 9 | 81 ÷ 9

7. **133 ÷ 7** ⇨ (70 63) ☐ + ☐ = ☐
   70 ÷ 7 | 63 ÷ 7

8. **38 ÷ 2** ⇨ (20 18) ☐ + ☐ = ☐
   20 ÷ 2 | 18 ÷ 2

9. **48 ÷ 3** ⇨ (30 18) ☐ + ☐ = ☐
   30 ÷ 3 | 18 ÷ 3

10. **136 ÷ 8** ⇨ (80 56) ☐ + ☐ = ☐
    80 ÷ 8 | 56 ÷ 8

Name: _____ Strategy: Division - Partials

Date: _____ Worksheet: 13-Partials

Partials Division Strategy: Instead of dividing a big number all at once, first break it into parts and divide the parts. Add the resulting "partial quotients" to get the total quotient or answer.

Example

What is 52 ÷ 4?
52 is 40 plus 12.
Divide 40 by 4 to get 10.
Divide 12 by 4 to get 3.
The answer is 10+3 = **13**.

Answer

52 ÷ 4 = 13

40 12

1. **51 ÷ 3 =** ☐
   30 21
2. **95 ÷ 5 =** ☐
   50 45
3. **99 ÷ 9 =** ☐
   90 9
4. **96 ÷ 8 =** ☐
   80 16
5. **64 ÷ 4 =** ☐
   40 24
6. **152 ÷ 8 =** ☐
   80 72
7. **119 ÷ 7 =** ☐
   70 49
8. **36 ÷ 3 =** ☐
   30 6
9. **48 ÷ 4 =** ☐
   40 8
10. **78 ÷ 6 =** ☐
    60 18
11. **39 ÷ 3 =** ☐
    30 9
12. **72 ÷ 4 =** ☐
    40 32
13. **120 ÷ 8 =** ☐
    80 40
14. **90 ÷ 5 =** ☐
    50 40
15. **171 ÷ 9 =** ☐
    90 81

Name: _____ Strategy: Division - Partials

Date: _____ Worksheet: 17-Partials

Partials Division Strategy: Instead of dividing a big number all at once, first break it into parts and divide the parts. Add the resulting "partial quotients" to get the total quotient or answer.

Example

What is 76 ÷ 4?
76 is 40 plus 36.
Divide 40 by 4 to get 10.
Divide 36 by 4 to get 9.
The answer is 10+9 = **19**.

Answer

76 ÷ 4 = 19

40 36

1. **144 ÷ 8=** ☐
   80 64
2. **144 ÷ 9 =** ☐
   90 54
3. **54 ÷ 3 =** ☐
   30 24
4. **68 ÷ 4 =** ☐
   40 28
5. **90 ÷ 6 =** ☐
   60 30
6. **85 ÷ 5 =** ☐
   50 35
7. **28 ÷ 2 =** ☐
   20 8
8. **88 ÷ 8 =** ☐
   80 8
9. **105 ÷ 7 =** ☐
   70 35
10. **102 ÷ 6 =** ☐
    60 42
11. **90 ÷ 5 =** ☐
    50 40
12. **44 ÷ 4 =** ☐
    40 4
13. **77 ÷ 7 =** ☐
    70 7
14. **112 ÷ 8 =** ☐
    80 32
15. **153 ÷ 9 =** ☐
    90 63