
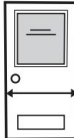





Day 1

 Measuring in Centimeters (Source: mathlearningcenter.org)

Please measure the following objects in centimeters and record the results.

Object to be Measured	Measurement in Centimeters
1. Width of your bed 	
2. Width of a door 	
3. Height from the floor to the seat of your favorite chair 	
4. Length of a telephone or cell phone 	
5. Dimensions of your favorite book 	

Composite Numbers

 Use the digits 1 to 9, at most one time each, to make 5 composite numbers. (Source: <https://www.openmiddle.com/>)

, , , ,

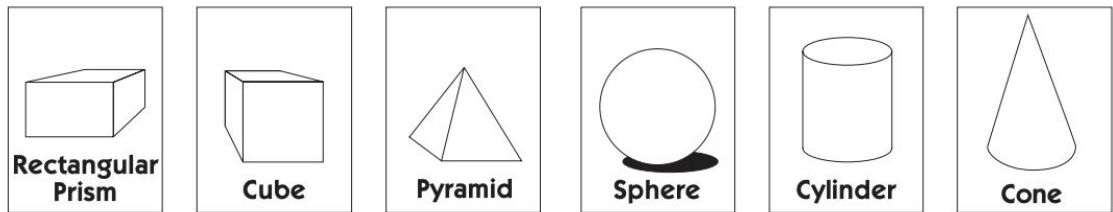
Alligators

Ten alligators went down to the river. Three of them laid eggs. They laid 5 eggs each. A snake ate 8 eggs. How many eggs are left?

Day 2

Stacking Shapes

You have a sphere, a cube, a cylinder, a cone, a rectangular prism and a pyramid. Which shapes will stack? Which shapes will roll? Explain your reasons for each answer.



Pig Game

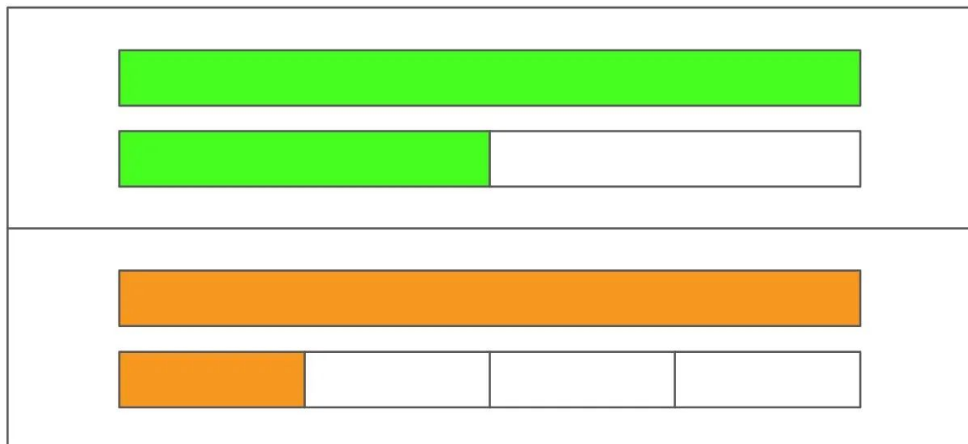
Materials: dice, pencil and paper.

Pig is a game for 2 or more players. Players take turns rolling the die as many times as they like. If a roll is a 2, 3, 4, 5, or 6, the player adds that many points to their score for the turn. A player may choose to end their turn at any time and “bank” their points. If a player rolls a 1, they lose all their unbanked points and their turn is over. Play to 50. (Source: mathforlove.org)

Noticing

On a piece of paper, make two columns. In one column, list the things that are the same in this picture, and in the other column, list the things that are different.

(Source: <https://samedifferentimages.wordpress.com/>)



Day 3

Prime Numbers (Source: <https://www.openmiddle.com/>)

Use the digits 1 to 9, at most one time each, to make 5 prime numbers.



Multiplication Strategies (Source: mathlearningcenter.org)

Solve these problems in your head. Fill in the blanks.

$\begin{array}{r} 10 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 20 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 30 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} \square \\ \times 3 \\ \hline 120 \end{array}$	$\begin{array}{r} 50 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 60 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 70 \\ \times 3 \\ \hline \end{array}$
$\begin{array}{r} 80 \\ \times \square \\ \hline 240 \end{array}$	$\begin{array}{r} 90 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 100 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 1,000 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 10,000 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} \square \\ \times 3 \\ \hline 300,000 \end{array}$	$\begin{array}{r} 1,000,000 \\ \times 3 \\ \hline \end{array}$

Which One Doesn't Belong? (Source: wodb.ca)

Choose one sum in this picture that you don't think it belongs with the rest. Explain why. Can you pick another sum and give a different reason?

$5 + 5$	$2 + 8$
$9 + 1$	$3 + 9$

Day 4

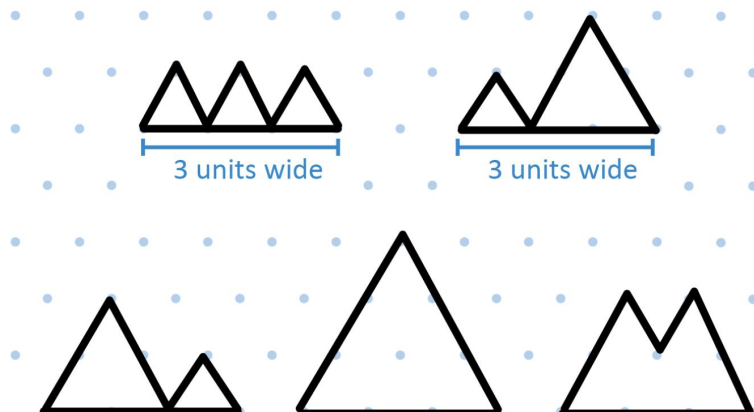
Ratio Table. (Source: mathlearningcenter.org)

Fill in the ratio table for 31.

1	2	20		30	10	5	
31			93				1550

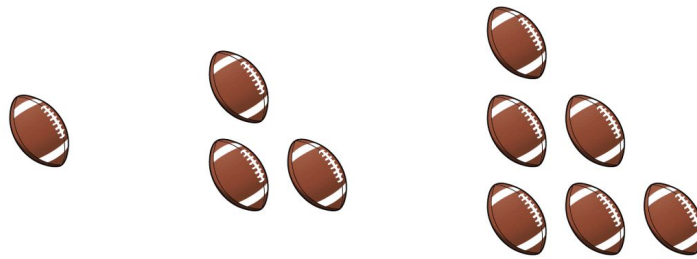
Mountain Ranges (Source: <https://playwithyourmath.com/>)

There are 5 mountain ranges that are 3 units wide. How many mountain ranges are 4 units wide?



Visual Pattern (Source: visualpatterns.org)

Below is a pattern of footballs in stages 1-3 below. Draw what you think stage 4 might look like. Label how many footballs are in each stage.



Day 5

Multiplying by Multiples of Ten (Source: mathlearningcenter.org)

Solve each problem below:

a $2 \times 16 = \underline{\hspace{2cm}}$

b $20 \times 16 = \underline{\hspace{2cm}}$

c $4 \times 21 = \underline{\hspace{2cm}}$

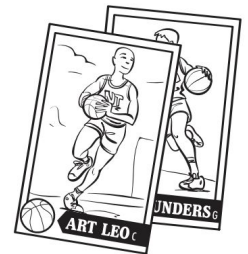
d $40 \times 21 = \underline{\hspace{2cm}}$

e $8 \times 15 = \underline{\hspace{2cm}}$

f $80 \times 15 = \underline{\hspace{2cm}}$

Story Problem (Source: mathlearningcenter.org)

LaToya had a large collection of basketball cards. She decided to give half of them to her friend, Erin, and a fourth of them to her brother. She still has 75 cards left. How many cards did she start with?



Life Savers (Source: mathlearningcenter.org)

Did you know that there are 14 Life Saver candies in a roll of Life Savers? Fill in the blanks on the ratio table to show how many Life Savers there are in different numbers of rolls.

Number of Rolls	Number of Lifesavers
1 roll	14 Life Savers
3 rolls	
	56 Life Savers
8 rolls	
	140 Life Savers



Day 1

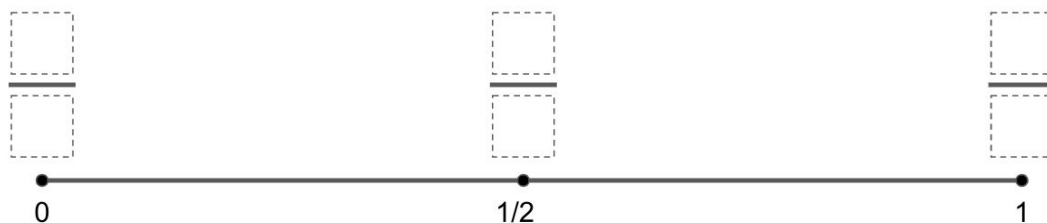
Elapsed Time (Source: mathlearningcenter.org)

Solve problems A and B. You may want to use an open number line to model the problem.

- A. Anna started a race at 9:30 am. She ran for 3 hours and 47 minutes. What time did she finish her race?
- B. Michael and Tyler both ran a half marathon. Michael finished in 1 hour 42 minutes and 13 seconds. Tyler finished in 97 minutes and 49 seconds.
- Who was faster?
 - How much faster was he?
- C. Takumi ran the first mile of his race in 450 seconds. How many minutes was his first mile?

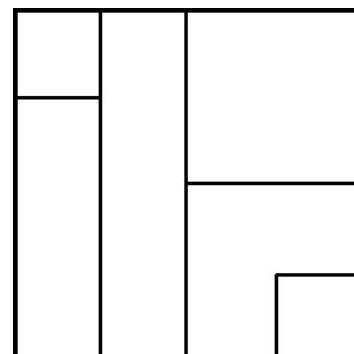
Benchmark Fractions (Source: <https://www.openmiddle.com/>)

Use the digits 1 to 9, no more than once, to create three fractions that are as close to zero, one half and one as possible. NOTE: Close as possible is measured by adding up all the differences and making it the least possible value.



Fraction Talk (Source: <http://fractiontalks.com/>)

What fraction of the big square is represented by each region? (Do all your fractions add up to one whole?)



Day 2





Perimeter and Area (Source: mathlearningcenter.org)




You can make sketches to help solve the problems below. Remember to include the units of measurement in your answers. Show all of your work.

- A. The classroom rug is 9 feet long and 8 feet wide. What is the total area of the rug? What is the perimeter of the rug?
- B. Chrissy is going to make a big painting on a piece of wood that is 4 feet wide and 7 feet long. What is the total area of the piece of wood? What is the perimeter of the piece of wood?
- C. The school playground measures 465 feet by 285 feet. What is the perimeter of the playground?

Puzzle (Source: <https://www.solvemoji.com/>)

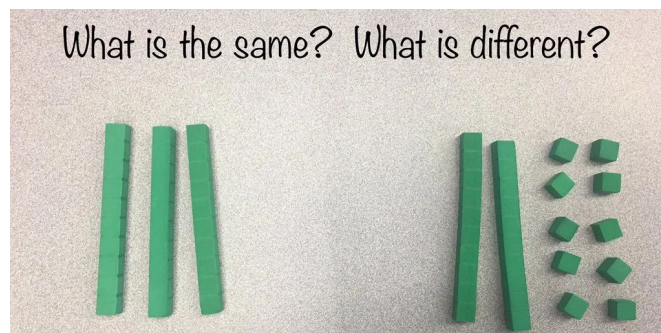
What is the value of the last row?

	+		8	=	13
+		+			
	+			=	12
=		=			
8		17			

 x  +  = ?

Noticing (Source: <https://samedifferentimages.wordpress.com/>)

On a piece of paper, make two columns. In one column, list the things that are the same in this picture, and in the other column, list the things that are different.



Day 3

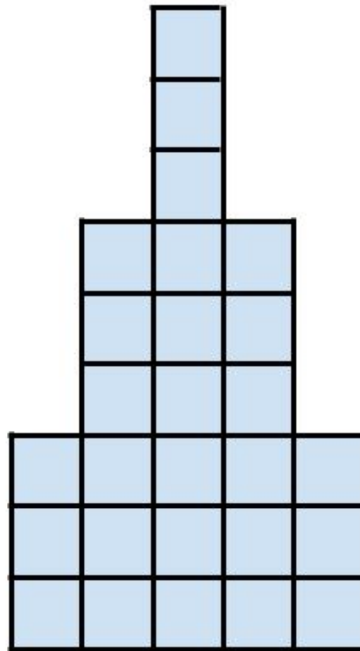
Protractors (Source: mathlearningcenter.org)

When you measure an angle you usually have to choose between two numbers because protractors are designed to measure angles that start on either the right or left side. There are two angles to measure in each of the problems. The angle on the left side is angle A. The angle on the right side is angle B. Find and record the measure of both angles in each problem.

<p>Angle A measures:</p> <p>_____</p> <p>Angle B measures:</p> <p>_____</p>	
<p>Angle A measures:</p> <p>_____</p> <p>Angle B measures:</p> <p>_____</p>	
<p>Angle A measures:</p> <p>_____</p> <p>Angle B measures:</p> <p>_____</p>	

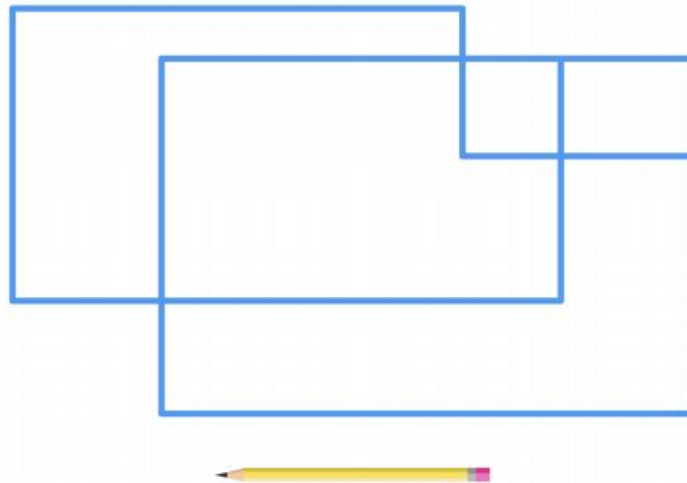
Counting (Source: visualpatterns.org)

How many squares do you see? How did you count them?



Tracing a Figure (Source: <https://brilliant.org/>)

Starting with your pencil at a location of your choice on the two dimensional figure, is it possible to trace this entire figure without lifting your pencil or redrawing a line? (Crossing at an intersection is okay.)

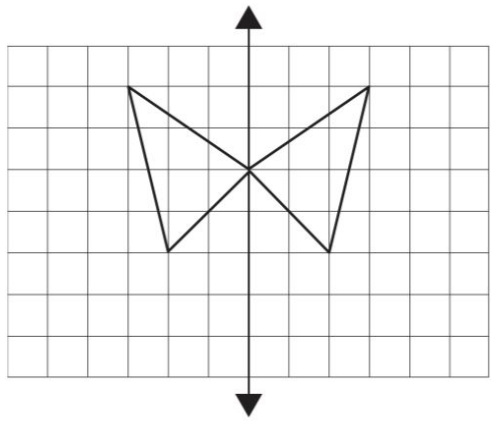
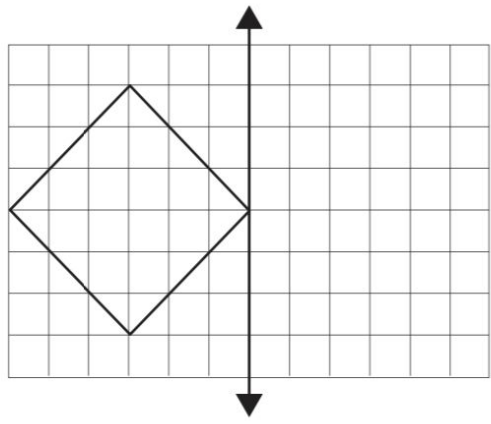
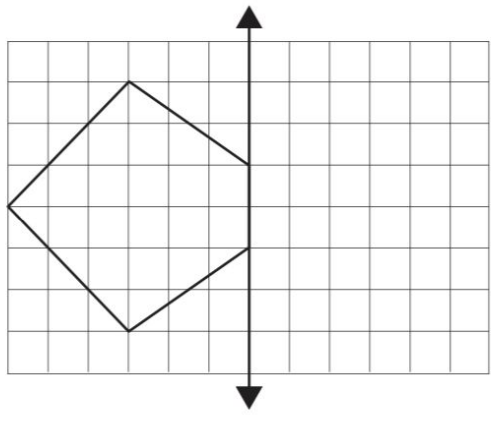
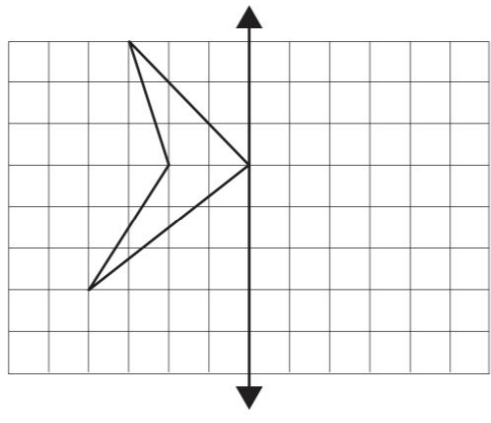


Day 4

Symmetry (Source: mathlearningcenter.org)

Figures a–c show only half of the designs, on the left side of their lines of symmetry.

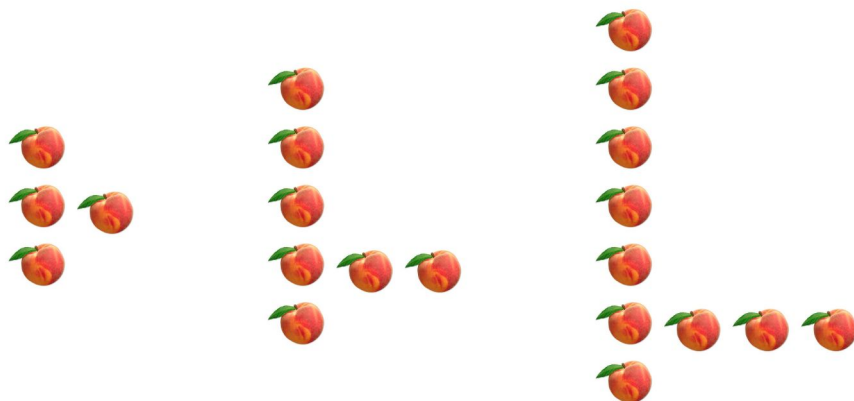
Complete each design on the right side of the line of symmetry.

ex 	a 
b 	c 

What did you do to make sure that the other half of each design you drew was accurate?

Visual Pattern (Source: visualpatterns.org)

Below is a pattern of peaches in steps 1–3 below. Draw what you think step 4 might look like. Label how many peaches are in each step.



Comparing Fractions (Source: <https://www.openmiddle.com/>)

Use the digits 1 to 9, at most one time each, to fill in the boxes to create two different fractions: one that is less than one half and one that is more than one half.

$$\frac{\square}{\square} < \frac{1}{2} \text{ and } \frac{\square}{\square} > \frac{1}{2}$$

Day 5

Conrad's Room (Source: mathlearningcenter.org)

Think about the most efficient strategy for each problem. Then show your work using numbers, labeled sketches, or words.

- A. Conrad is cleaning his room. His bookcase has 7 shelves. He put 18 books on each shelf. How many books did Conrad put away?
- B. Conrad's dresser has 6 drawers. He put 13 pieces of clothing in each drawer. How many pieces of clothing did he put away?
- C. Conrad has 11 containers for his toys. He put 17 toys in each container. How many toys did he put away?

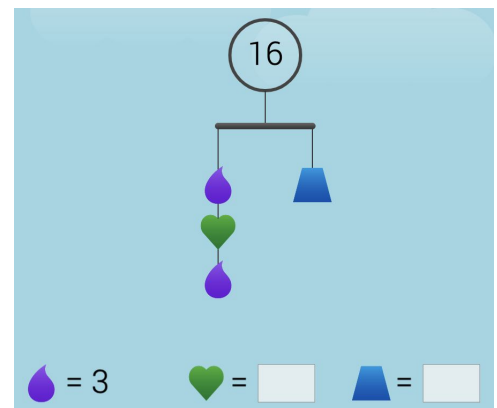
Fractions (Source: mathlearningcenter.org)

Fill in the blanks.

A. $\frac{1}{2}$ of 24 is _____	B. $\frac{1}{4}$ of 24 is _____	C. $\frac{1}{8}$ of 24 is _____
D. $\frac{1}{3}$ of 24 is _____	E. $\frac{1}{6}$ of 24 is _____	F. $\frac{1}{12}$ of 24 is _____

Mobile (Source: <https://solve.me.edc.org/Mobiles.html>)

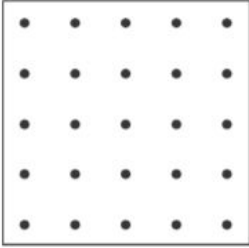
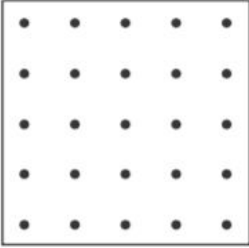
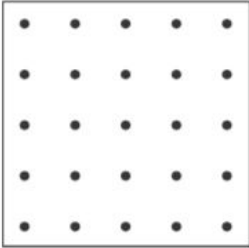
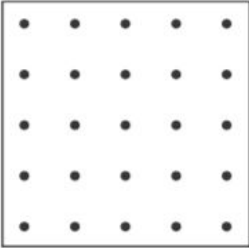
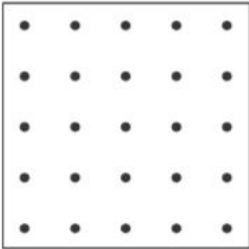
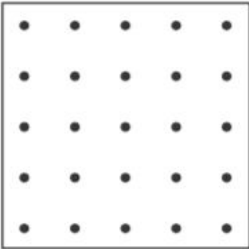
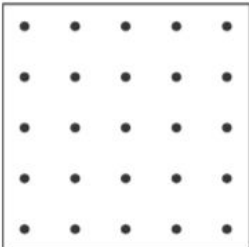
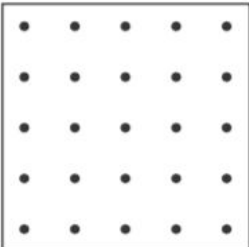
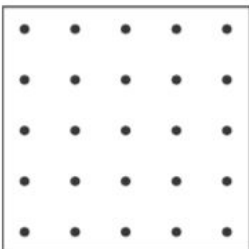
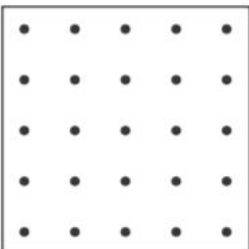
What is the value of the heart? The trapezoid?



Day 1

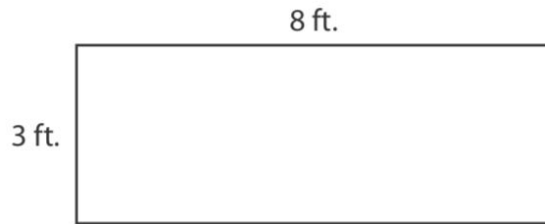
 Drawing 2-Dimensional Figures (Source: mathlearningcenter.org)

Draw at least two examples of each term below.

	Term	Your Drawings	
a	parallel lines		
b	perpendicular lines		
c	right angle		
d	obtuse angle		
e	acute angle		

Finding Perimeter (Source: mathlearningcenter.org)

Which equation shows how to find the perimeter of this rectangle?



- $3 \times 8 = 24$ ft.
- $(2 \times 3) + 8 = 14$ ft.
- $(2 \times 3) + (2 \times 8) = 22$ ft.
- $4 + 8 = 12$ ft.

Mr. Hunter is trying to find the distance from one end of his whiteboard to the other. Mr. Hunter is measuring:



- the whiteboard's area
- the whiteboard's length
- the whiteboard's perimeter

Multiplying Two-Digit Numbers – Closest to 7,000

(Source: <https://www.openmiddle.com/>)

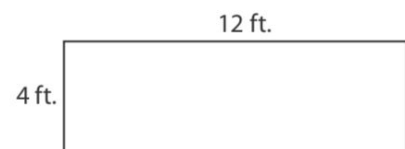
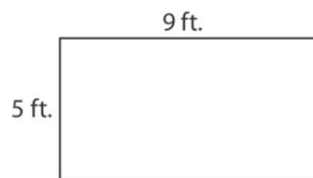
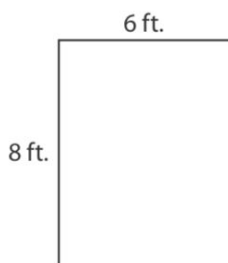
Using the digits 1 to 9 at most one time each, fill in the boxes to make the product as close to 7,000 as possible

$$\begin{array}{r} \square \square \\ \times \square \square \\ \hline \end{array}$$

Day 2

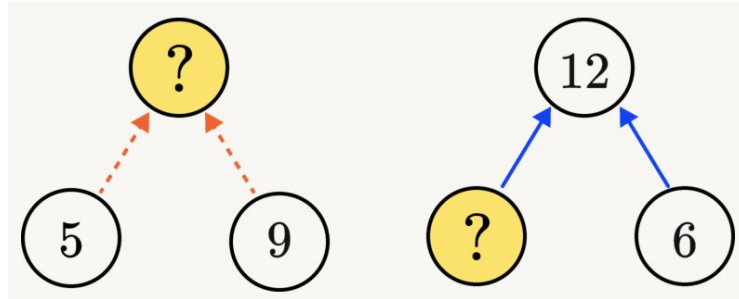
Building a Deck (Source: mathlearningcenter.org)

Alexandra and her dad built a deck in their backyard. It had an area of 48 square feet and a perimeter of 28 feet. Circle the drawing that shows the deck they built. Use numbers, labeled sketches, and words to explain your answer.

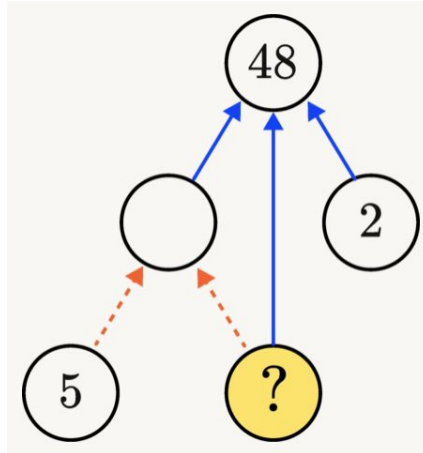


Round and Round (Source: <https://brilliant.org/>)

In a circle puzzle like the one below, dashed arrows mean to add and solid arrows mean to multiply. For example, the solution to the puzzle is a number whose sum is, $5 + 9$, which is 14. The solution on the right is a number that, when multiplied by 6, gives us 12. By working backwards, we get a solution of 2.

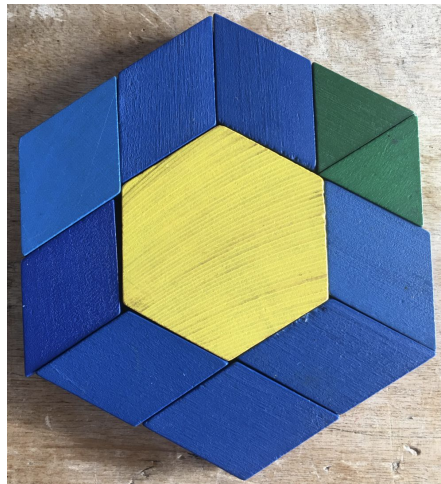


Solve the puzzle below, where 48 is a product of three numbers.



Counting (Source: mathforlove.org)

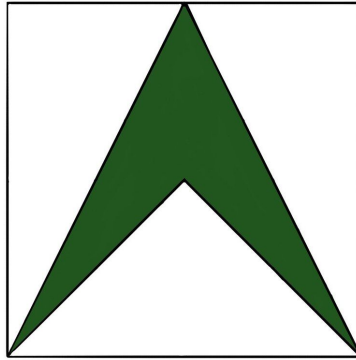
How many do you see? What did you count? How did you count them?



Day 3

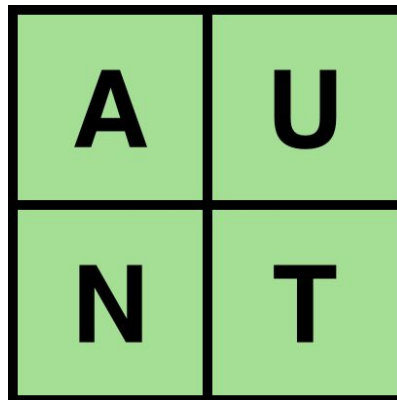
Fraction Talk (Source: <http://fractiontalks.com/>)

What fraction of the big square is shaded? Show your work.



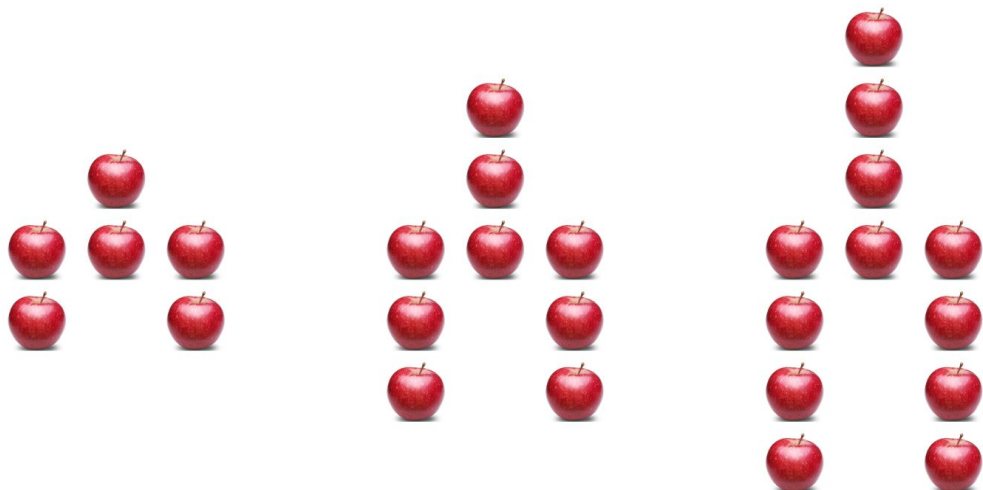
Which One Doesn't Belong? (<http://wodb.ca/>)

Choose one rectangle in this picture that you don't think belongs with the rest. Explain why. Can you pick another rectangle and give a different reason?



Visual Pattern (Source: visualpatterns.org)

Below is a pattern of apples in stages 1-3 below. Draw what you think stage 4 might look like. Label how many apples are in each stage.



Day 4

Row and Diagonals (Source: mathlearningcenter.org)

Complete each multiplication puzzle. Fill in the products of rows and diagonals.

ex

			35
8	6	1	48
3	5	3	45
7	4	2	56
			80

a

			56
1	6		
4	2		32
4	1		36
			18

b

	3		0
4	2		72
	3	3	45
			42

Puzzle (Source: <https://www.solvemoji.com/>)

What is the value of the last row?

$$\text{👦} + \text{👦} + \text{👦} = 6$$

$$\text{👨} + \text{👦} + \text{👨} = 26$$

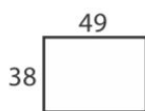
$$\text{👨} + \text{👧} + \text{👧} = 18$$

$$\text{👦} \times \text{👧} + \text{👨} = ?$$

Perimeter and Area (Source: mathlearningcenter.org)

Find the area and perimeter of each figure below.

a



Area = _____

Perimeter = _____

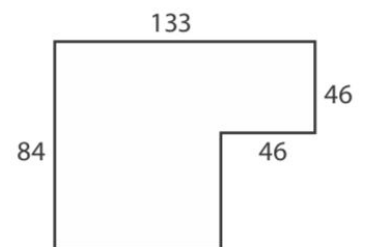
b



Area = _____

Perimeter = _____

c



Area = _____

Perimeter = _____

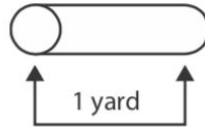
Day 5

Puzzle (Source: mathlearningcenter.org)

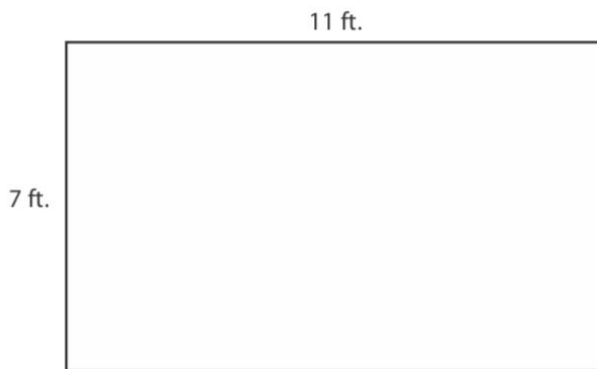
Draw and label a rectangle with an area of 32 square units and a perimeter of 36 units. Use numbers or words to show that you are correct.

Covering a Bulletin Board (Source: mathlearningcenter.org)

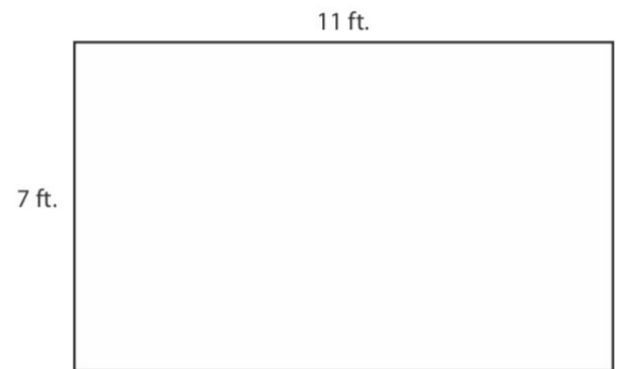
Shanice and Micah are using yellow craft paper to cover a bulletin board. The board is 11 feet wide and 7 feet tall. The craft paper comes in a roll that is 1 yard wide. They can roll it out and cut it to any length, but the paper will always be 1 yard wide. Draw and label on the bulletin board pictures below to show 2 different ways Shanice and Micah can cover the bulletin board.



a First way.



b Second way.



Would You Rather (Source: <https://www.wouldyourathermath.com/>)

Whichever option you choose, justify your reasoning with mathematics.

Would you rather?

Sell a batch of 30 cookies for 50 cents each with a cost to make of \$8?


OR

Sell a batch of 30 cookies for \$15 with a cost to make of \$6?



Day 1
Fraction Stories (Source: mathlearningcenter.org)

Missy's mother owns a pet supply store. The directions on the small cans of cat food say to feed a cat 1 can of food each day for every 4 pounds of body weight. Missy started to make a table to help people know how much of this food to give their cats every day. Finish the table.

 weight in pounds	 cans per day
4	1
5	
6	
7	
8	2
9	

 weight in pounds	 cans per day
10	
11	
12	
13	
14	
15	

Inequalities (Source: mathlearningcenter.org)

Fill in the blanks with $<$, $>$, or $=$.

a $\frac{1}{3}$ $\frac{4}{9}$

b $\frac{7}{12}$ $\frac{4}{8}$

c $\frac{5}{15}$ $\frac{1}{3}$

d $\frac{9}{12}$ $\frac{2}{3}$

Whole Number Division (Source: <https://www.openmiddle.com/>)

Using the digits 1 to 9 at most one time each, fill in the boxes to make a true statement.

$$\square \div \square = \square \div \square = \square$$

Day 2

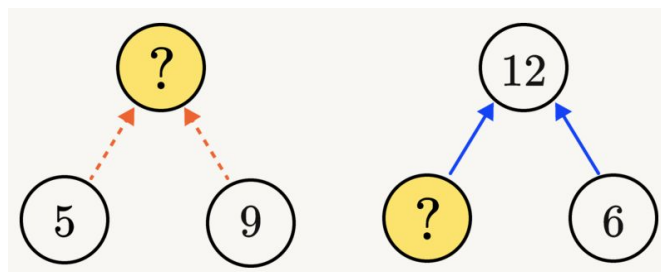
Story Problem (Source: mathlearningcenter.org)

Tina collects cans to recycle at the supermarket. Last week, on Monday, Wednesday and Thursday, she collected 37 cans each day. On Tuesday, Friday, Saturday, and Sunday, she collected 43 cans each day. Tina gets 5 cents for every can she recycles.

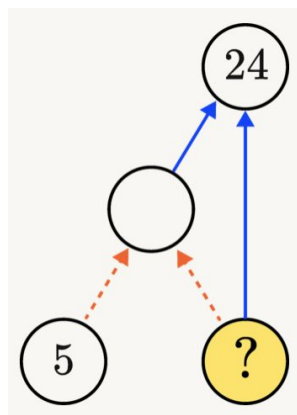
- How much money did Tina get for her cans last week?
- Tina kept \$5 for herself. She divided the rest of the money evenly among her three little brothers. How much money did each brother get?

Round and Round (Source: <https://brilliant.org/>)

In a circle puzzle like the one below, dashed arrows mean to add and solid arrows mean to multiply. For example, the solution to the puzzle is a number whose sum is, $5 + 9$, which is 14. The solution on the right is a number that, when multiplied by 6, gives us 12. By working backwards, we get a solution of 2.



Solve the puzzle below.



Counting (Source: mathforlove.org)

How many do you see? What did you count? How did you count them?

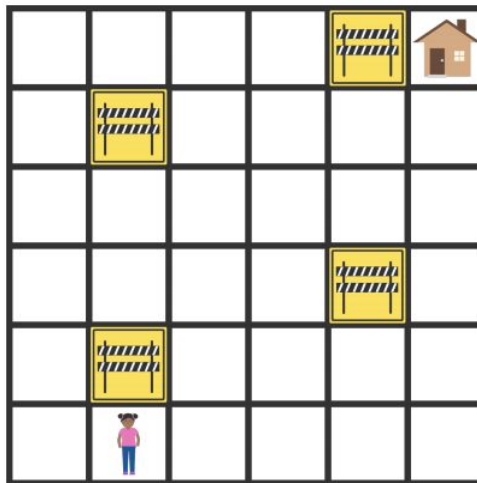


Day 3

Walking Home (Source: <https://brilliant.org/>)

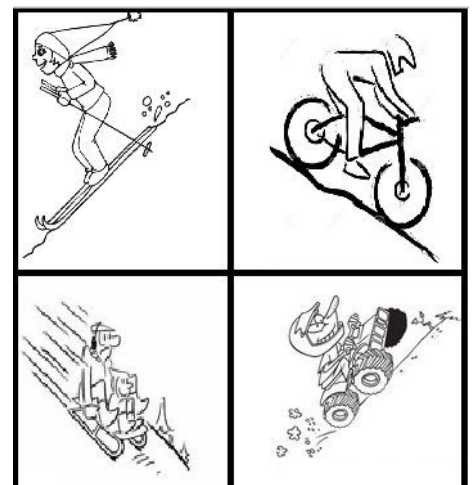
Zara is finding her way home, but she wants to take a route that visits her neighborhood as much as possible. From any square on the map shown, she can move up, down, left, or right a square (not diagonally).

She also wants to visit every empty square exactly once, entirely avoid the squares marked with "under construction" signs, and she wants her trip to end at her house. Is it possible for her to do this?



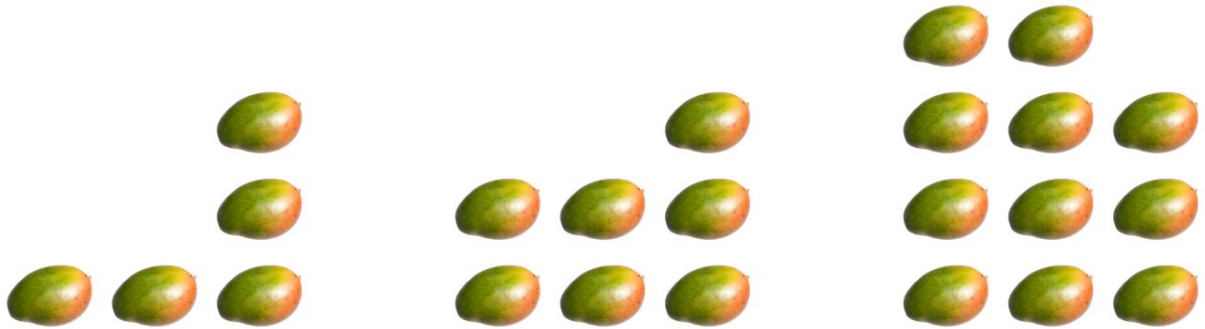
Which One Doesn't Belong? (<http://wodb.ca/>)

Choose one scene in this picture that you don't think belongs with the rest. Explain why. Can you pick another scene and give a different reason?



Visual Pattern (Source: visualpatterns.org)

Below is a pattern of mangoes in stages 1-3 below. Draw what you think stage 4 might look like. Label how many mangoes are in each stage.



Day 4

Paloma's Picture (Source: mathlearningcenter.org)

Paloma is painting a picture of a house. Help Paloma solve the following problems. Show your work using numbers, sketches, or words.

- A. The door of Paloma's house is 49 millimeters by 24 millimeters. What is the area of the door?
- A. One of the windows is 15 millimeters by 32 millimeters. Another window is 30 millimeters by 16 millimeters. Paloma says the windows have the same area. Do you agree or disagree? Why?
- B. The porch is 12 centimeters by 19 centimeters. What is the area of the porch?

Puzzle (Source: <https://www.solvemoji.com/>)

What is the value of the last row?

$$\text{grapes} + \text{grapes} + \text{grapes} = 6$$

$$\text{grapes} + \text{cherries} + \text{cherries} = 18$$

$$\text{cherries} + \text{cherries} + \text{pear} = 22$$

$$\text{pear} + \text{grapes} \times \text{cherries} = ?$$

Practice (Source: mathlearningcenter.org)

Fill in the blanks.

- A. $48 \times 25 = 24 \times \underline{\hspace{2cm}}$
- B. $48 \times 29 = (48 \times 30) - (48 \times \underline{\hspace{2cm}})$
- C. $48 \times 29 = (48 \times 20) + (48 \times \underline{\hspace{2cm}})$
- D. $50 \times 29 = \frac{1}{2}$ of $\underline{\hspace{2cm}} \times 29$

True or False?

- A. $16 \times 17 = 34 \times 8$ _____
- B. $39 \times 8 = (40 \times 8) - 1$ _____
- C. $64 \times 20 = 32 \times 40$ _____
- D. $50 \times 89 = 100 \times 89$ _____

Day 5

Metric Units (Source: mathlearningcenter.org)

Write and solve an equation for each of the problems below. Use the table to help.

Measurement Equivalents			
1 kilometer	1,000 meters	10,000 decimeters	100,000 centimeters
	1 meter	10 decimeters	100 centimeters
		1 decimeter	10 centimeters

- A. How many centimeters are in 45 meters?

- B. How many meters are in 45 kilometers?

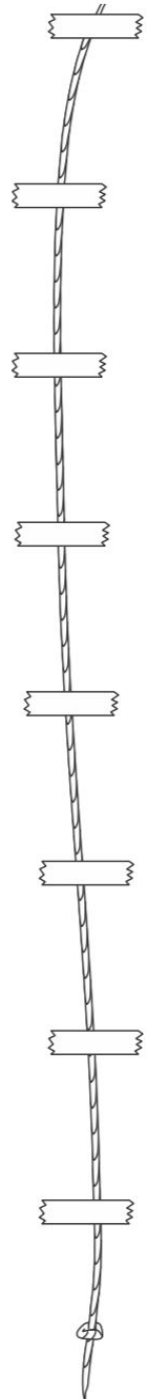
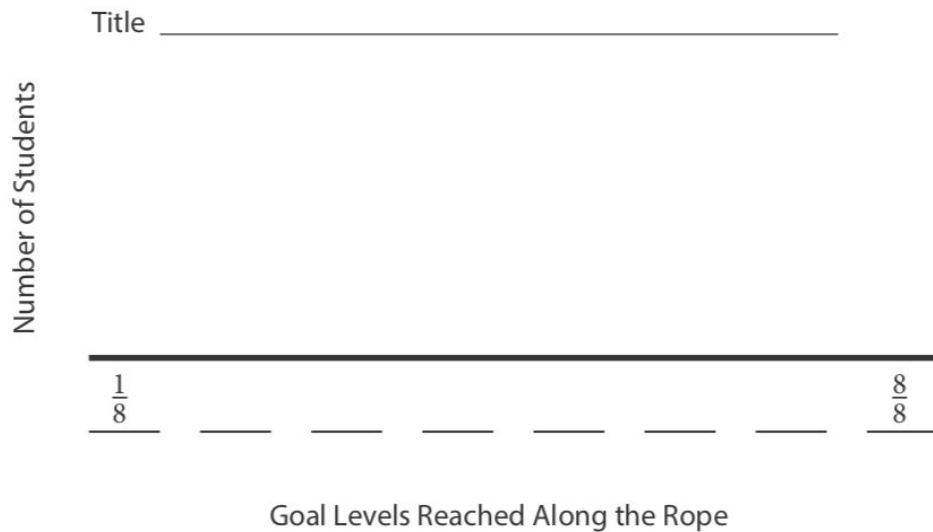
- C. How many meters are in 800 centimeters?

Rope Climb (Source: mathlearningcenter.org)

Your P.E. teacher has challenged your class to a rope climb! There are 8 blue pieces of tape equally spaced, and wrapped around the rope to mark off the distances. The following results represent the goal levels that were reached by the students in your group.

$\frac{4}{8}$ $\frac{1}{8}$ $\frac{3}{8}$ $\frac{1}{8}$ $\frac{4}{8}$ $\frac{2}{8}$ $\frac{3}{8}$ $\frac{8}{8}$ $\frac{4}{8}$ $\frac{6}{8}$ $\frac{7}{8}$

Display this data on the line plot below. Enter the rest of the goal levels below the heavy line. Make an X above the heavy line to represent each student in your group. Give your finished line plot a good title.



- How many students stopped at the goal line $\frac{3}{8}$?
- Which goal level did the most students reach?
- How many students touched or even passed $\frac{3}{8}$ of the rope?
- What was the total distance combined for climbing the rope?

Would You Rather (Source: <https://www.wouldyourathermath.com/>)

Whichever option you choose, justify your reasoning with mathematics.

