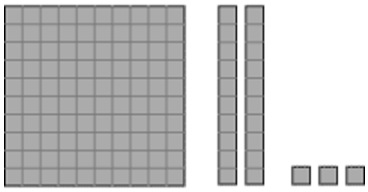
Pictorial Representation

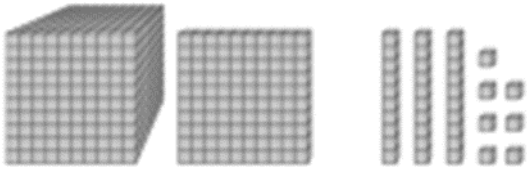
Write or circle the correct answer.

1) Write the number represented by the blocks.



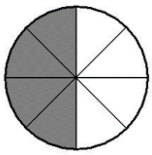
_____

2) Write the number represented by the blocks.



_____

3) What fractional part of this figure is shaded?

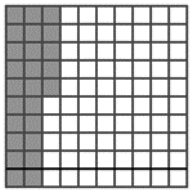


A. $^1/_8$ B. $^1/_4$ C. $^1/_2$ D. $^3/_4$

4) Write the fraction represented by the shaded part.

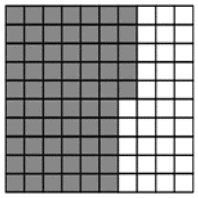
_____

5) The shaded part of this picture shows which decimal number?



A) 2.5 B) .25 C) .025 D) .15

6) Write the decimal represented by the shaded part of the grid.



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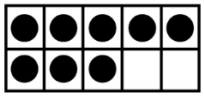
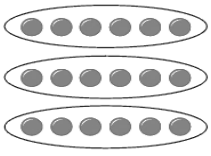


7) Using the ten frame above, write the four related addition and subtraction facts.



8) Using the picture above, write the four related multiplication and division facts.

Patterns

Write or circle the correct answer. Make sure you answer all questions.

1) Lisa wrote the pattern below in her notebook.

300, 280, 260, 240, 220, . . .

What is the next number in her pattern?

A. 210 B. 230 C. 200 D. 180

2) This table shows the number of people who can fit in different numbers of Ferris Wheel Cars.

Number of Cars	3	6	9	12
Number of People	24	48	?	96

How many people can fit in 9 cars?

A. 64 B. 72 C. 80 D. 84

3) If you know that 3 x 8 = 24, which division fact do you know?

A. 24 ÷ 12 = 2
B. 3 ÷ 1 = 3
C. 24 ÷ 8 = 3
D. 8 ÷ 2 = 4

4) Look at the pattern

8, 12, 16, 20, 24, 28, . . .

Write the next number. _____

Explain how you got your answer.

5) Look at the pattern.

Draw the next shape. _____

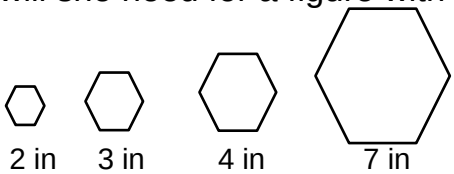
Explain how you decided what to draw.

6) Gino can decorate 9 T-shirts per hour. The pattern shows the total number of shirts he decorates after each of the first 5 hours he works. If the pattern continues, what are the next 3 numbers?

9, 18, 27, 36, 45, . . .

A. 63, 72, 81
B. 63, 64, 72
C. 54. 63, 72
D. 54, 62, 71

7) Mandy is going to make hexagons in different sizes for a mural. Each figure has sides with equal lengths. She wants to outline each figure with glow tape. How many inches of glow tape will she need for a figure with sides 7 inches long?



2 in 3 in 4 in 7 in

Inches on one side	2	3	4	7
Inches of Glow Tape	12	18	24	?

Place Value

Circle or write the correct answer.

1) A local car dealer sold 870 cars last month. He sold 100 MORE cars this month than last month. How many cars did he sell this month? A. 770 B. 870 C. 970 D. 1070	2) Which means the same as 7,046? A. 7000 + 40 + 6 B. 7000 + 406 C. 700 + 40 + 6 D. 70 + 46
3) The value of the 6 in the following number is six million: 623,985,002 True False	4) In which number does 4 have the GREATEST value? A. 34 B. 43 C. 435 D. 534
5) A meteorologist reported that 2.5 inches of snow fell last night. What is the value of 5 in 2.5? A. 5 ones B. 5 hundredths C. 5 tens D. 5 tenths	6) Name the values of the 3's in 3,345. A. 300; 30 B. 3000; 300 C. 300; 3 D. 30; 3
7) Choose an answer that has a digit in the hundreds place that has a greater value than the digit in the thousands place. A. 101,100 B. 423,804 C. 586,340 D. 873,212	8) Which means the same as 95? A. 9 tens and 15 ones B. 90 tens and 5 ones C. 8 tens and 15 ones D. 7 tens and 15 ones
9) Rearrange the digits to make the largest number possible. <u>129,378</u>	10) What's the largest number you can make with 0, 1, 6, and 7?

Standard Form, Expanded Form and Word Form

Standard Form	Expanded Form	Word Form
16.07	(1 x 10) + (6 x 1) + (7 x .01) 10 + 6 +.07	sixteen and seven hundredths

Read each question carefully and write your answer clearly.

1) Write the standard form for 8 hundreds, 5 ones	2) Write the standard form for nine thousand, three hundred, twenty-two.
3) Write the standard form for: (2 x 100) + (5 x 10) + (9 x 1) + (6 x .1)	4) Write the standard form for 2,000 + 700 + 30 + 9 + .05
5) Write 2,461 in expanded form	6) Write 215 in word form.
7) What is 72,894 in expanded form?	8) Write the word form for 4,632.52
9) Write the number 6,784.25 in expanded form.	10) Write the number 20,005.03 in expanded form.

Order, Magnitude and Rounding Numbers

Answer the questions. Show any work.

1) Round 75 to the nearest 10.	2) Fill in the blank with < or > to compare the numbers. 8,206 ____ 8,260
3) 658 rounded to the nearest hundred is __	4) Use (‹ , › , or =) to compare the numbers. 86 ____ 68
5) Write (‹, ›, or =) to compare the sums. 220 + 40 ____ 210 + 53	6) Round 5,696 to the nearest thousand.
7) Order the numbers from least to greatest. 4.18 4.5 4.018 0.432	8) Arrange numbers from greatest to least. 8,965 8,985 8,975
9) List the following numbers in order from least to greatest: 45,240 3,467 29 734,123 994	10) Round 582,314.78 to the nearest tenth.

Addition and Subtraction - Whole Numbers

Solve each problem. Show all your work. You can use the standard algorithm or an alternative strategy. NO CALCULATORS.

1) 24 + 37	2) 676 - 223	3) 4,256 + 3,414
4) 4003 – 1695	5) 984 + 236	6) 5,187 + 7,803 + 46
7) 400 - 96	8) 836 + 273 + 124	9) 863 – 435
10) 22 + 16 + 244	11) 1,706 - 428	12) 216,345 + 78,472

Multiplication – Whole Numbers

Solve each problem. Show all your work. You can use the standard algorithm or an alternative strategy. NO CALCULATORS.

1) 30 x 5	2) 68 x 5	3) 50 x 7
4) 207 x 9	5) 2,984 x 3	6) 423 x 30
7) 74 x 36	8) 58 x 26	9) 915 x 13
10) 152 x 81	11) 762 x 25	12) 40 x 77

Division – Whole Numbers

Solve each problem. Show all your work. You can use the standard algorithm or an alternative strategy. NO CALCULATORS. Write your answer on the line.

1) 128 ÷ 4	2) 222 ÷ 6	3) 650 ÷ 5
4) 301 ÷ 7	5) 4509 ÷ 9	6) 103 ÷ 3
7) 8126 ÷ 5	8) 250 ÷ 7	9) 10,320 ÷ 20

Problem Solving

The 4-step Plan (Read-Plan-Solve-Check) is a good strategy for solving word problems.	
Example: Each roll of ribbon has 9 yards on it. Megan needs 60 yards. How many rolls should she buy in order to have enough?	
Steps	**Example**
Read - read the problem	
• Identify the facts in a bulleted list	• 9 yards - roll of ribbon • 60 yards - amount needed
• Write a question for the information you need to find.	How many rolls of ribbon does Megan need to buy?
Plan – decide how you will find the answer	
• Make a visual to help you see the problem. This can be a picture, chart, table, etc.	60 yards total = (9 yd) + (9 yd) + how many times?
• Write your plan to solve the problem. State the plan without using the specific numbers from the problem.	I will divide the total number of yards by the number of yards in 1 spool to find the number of spools needed.
Solve – complete your calculations	
• Use numbers from the problem in your plan.	60 yards ÷ 9 yards 6 Remainder 6 Since 6 spools will not give me 60 yards completely and I cannot buy a part of a spool, I need 7 spools. $9\overline{)60}$ 6, -54, 6
Check – use a different calculation to see if your numbers work and make sense.	7 spools x 9 yards = 63 yards 63 yards is more than 60, so there is enough
Final Answer – write a sentence to answer the original question	Megan needs to buy 7 rolls of ribbon to have enough for 60 yards.

Look on the next page to see what the completed template looks like.

1) Each roll of ribbon has 9 yards on it. Megan needs 60 yards. How many rolls should she buy in order to have enough?

READ	
I know that . . .	I need to find out . . .
• 9 yards - roll of ribbon • 60 yards - amount needed	How many rolls of ribbon does Megan need to buy?

PLAN	
Create a Representation (picture, diagram, table) 60 yards total = (9 yd) + (9 yd) + how many times?	I will choose the problem-solving strategy . . . I will divide the total number of yards by the number of yards in 1 spool to find the number of spools needed.

SOLVE	CHECK
Show your work 60 yards ÷ 9 yards $9\overline{)60}$ → 6, -54, 6 6 Remainder 6 Since 6 spools will not give me 60 yards completely and I cannot buy a part of a spool, I need 7 spools.	My answer is reasonable because . . . 7 spools x 9 yards = 63 yards 63 yards is more than 60, so there is enough

FINAL ANSWER
I found out that . . .
Megan needs to buy 7 rolls of ribbon to have enough for 60 yards.

Problem Solving – Whole Numbers

Solve the problems using the 4-step Plan. Show all your work, labeling each step and labeling your answer with the correct units.

1) Juanita has saved 14 box tops to send for a kite. She needs 20 box tops. How many more box tops does she need?

READ	
I know that . . .	I need to find out . . .
PLAN	
Create a Representation (picture, diagram, table)	I will choose the problem-solving strategy . . .
SOLVE	**CHECK**
Show your work	My answer is reasonable because . . .
FINAL ANSWER	
I found out that . . .	

2) The ice cream stand had 150 ice cream bars to sell. They sold 74. How many ice cream bars are left?

READ	
I know that . . .	I need to find out . . .
PLAN	
Create a Representation (picture, diagram, table)	I will choose the problem-solving strategy . . .
SOLVE	**CHECK**
Show your work	My answer is reasonable because . . .
FINAL ANSWER	
I found out that . . .	

3) Sandy collected cans to return. She collected 138 on Saturday and 109 on Sunday. How many did she collect in all?

READ	
I know that . . .	I need to find out . . .
PLAN	
Create a Representation (picture, diagram, table)	I will choose the problem-solving strategy . . .
SOLVE	**CHECK**
Show your work	My answer is reasonable because . . .
FINAL ANSWER	
I found out that . . .	

4) There were 5 crayons in a box. There were 4 boxes. How many crayons were there in all?

READ	
I know that . . .	I need to find out . . .
PLAN	
Create a Representation (picture, diagram, table)	I will choose the problem-solving strategy . . .
SOLVE	**CHECK**
Show your work	My answer is reasonable because . . .
FINAL ANSWER	
I found out that . . .	

5) Carlos has 42 tomato plants. He plants 7 in each row. How many rows will he have?

READ	
I know that . . .	I need to find out . . .
PLAN	
Create a Representation (picture, diagram, table)	I will choose the problem-solving strategy . . .
SOLVE	**CHECK**
Show your work	My answer is reasonable because . . .
FINAL ANSWER	
I found out that . . .	

Decimals – Adding and Subtracting

RULE	EXAMPLE
• Line up the decimal points • Add zeros if necessary • Add or subtract NOTE: Remember to bring down your decimal point into your answer!	33.4 – 3.82 3 3 . 4 0 - 3 . 8 2 2 9 . 5 8

Find each sum or difference. Show your work.

1) 5.30 + 1.76 + 4.07	2) 2.31 - 1.51	3) 2.62 + 6.90 + 3.89
4) $11.11 – $4.88	5) $100.80 + $5.87	6) 100.38 - 16.65
7) 893.79 + 1,800.49	8) 4,267.18 – 3,960.81	9) 7,350.58 – 4,319.99

Adding and Subtracting Decimals – Problem Solving

Solve the problems using the 4-step Plan. Show all your work, labeling each step and labeling your answer with the correct units.

1) Noah measured the length of three pieces of cloth. The measurements were 4.29 ft, 3.6 ft, and 2.34 ft. What was the total length of the three pieces of cloth?

READ	
I know that . . .	I need to find out . . .
PLAN	
Create a Representation (picture, diagram, table)	I will choose the problem-solving strategy . . .
SOLVE	**CHECK**
Show your work	My answer is reasonable because . . .
FINAL ANSWER	
I found out that . . .	

2) Doreen has $20. She wants to buy a pair of earrings that costs $7.58 and a necklace that costs $13.36. Does Doreen have enough money?

READ	
I know that . . .	I need to find out . . .
PLAN	
Create a Representation (picture, diagram, table)	I will choose the problem-solving strategy . . .
SOLVE	**CHECK**
Show your work	My answer is reasonable because . . .
FINAL ANSWER	
I found out that . . .	

3) Hannah was subtracting the number 4.576 from the number 9.2. Her answer was 4.776. Is this answer correct? If not, what is the correct answer?

READ	
I know that . . .	I need to find out . . .
PLAN	
Create a Representation (picture, diagram, table)	I will choose the problem-solving strategy . . .
SOLVE	**CHECK**
Show your work	My answer is reasonable because . . .
FINAL ANSWER	
I found out that . . .	

Finding Factors/Greatest Common Factor

Rainbow Method – begin with the smallest prime number; write the larger factor on the other end; continue until you meet in the middle		
Example: Find the factors of 48		
Write the number 48 followed by a colon	48:	
Start with 1 x 48	48: 1,	48
Next 2 x 24	48: 1, 2,	24, 48
Next 3 x 16	48: 1, 2, 3,	16, 24, 48
Next 4 x 12	48: 1, 2, 3, 4	12, 16, 24, 48
5 does not work, next 6 x 8	48: 1, 2, 3, 4, 6,	8, 12, 16, 24, 48
7 does not work. We already have 8, so we have the solution.	48: 1, 2, 3, 4, 6, 8, 12, 16, 24, 48	

Find the factors for the following numbers. Show your work.

1) 32	2) 60
3) 18	4) 24

Greatest Common Factor (GCF) - the greatest number that is a factor of two (or more) other numbers, GFC is useful for simplifying fractions or finding equivalent fractions	
Finding the Greatest Common Factor 1) find all factors of both numbers 2) then find the ones that are common to both, and 3) then choose the greatest	12: 1, 2, 3, 4, 6,12 16: 1, 2, 4, 8, 16 Common factors: 1, 2, 4 GFC: 4

Find the GCF for the following numbers. Show your work.

1) 18 and 64		2) 36 and 64	
Common factors:	GCF:	Common factors:	GCF:
3) 56 and 63		4) 45 and 75	
Common factors:	GCF:	Common factors:	GCF:

Least Common Multiple/Equivalent Fractions

Least Common Multiple (LCM) - the smallest positive number that is a multiple of two or more numbers; also called Lowest Common Multiple; LCM is useful for finding common denominators
Finding the Least Common Multiple 1) list the multiples of each number 2) find the first common value 4: 4, 8, 12, 16, . . . 6: 6, 12, 18, . . . LCM: 12

Find the LCM for the following numbers. Show your work.

1) 8 and 6	2) 4 and 22
3) 14 and 28	4) 16 and 24

• **Equivalent Fractions** have the same value, even though they may look different • You can make equivalent fractions by multiplying or dividing both top and bottom by the same amount • You only multiply or divide, never add or subtract, to get an equivalent fraction
The rule to remember is: *"Change the bottom using multiply or divide,* *And the same to the top must be applied"*

Solve the problems. Circle or write the answer. Show your work.

1) Which two fractions are equivalent to $^{4}/_{5}$? A) $^{10}/_{12}$ and $^{15}/_{20}$ B) $^{20}/_{25}$ and $^{50}/_{60}$ C) $^{15}/_{18}$ and $^{25}/_{30}$ D) $^{24}/_{30}$ and $^{28}/_{35}$	2) Find 2 equivalent fractions for $^{8}/_{16}$.

Fractions – Adding and Subtracting

RULE	EXAMPLE
Denominators the same • Add or subtract the numerators • Write the sum or difference over the denominator • Reduce the fraction, if necessary	$^2/_8 + {}^4/_8 = {}^6/_8$ $^6/_8 = {}^3/_4$
Denominators are different • Find the least common denominator (LCD) using least common multiple • Write equivalent fractions using the LCD • Finish solving using the steps above	$^5/_6 + {}^3/_8$ LCD = 24 $^5/_6 = {}^{20}/_{24}$ $^3/_8 = {}^9/_{24}$ $^5/_6 + {}^9/_{24} = {}^{29}/_{24}$ $^{29}/_{24} = 1\ {}^5/_{24}$

Find each sum or difference. Show your work.

1) $^2/_8 + {}^3/_8 =$	2) $^1/_6 + {}^2/_5 =$	3) $^7/_9 - {}^2/_9 =$
4) $^3/_4 - {}^5/_{12} =$	5) $^2/_5 + {}^3/_{10} =$	6) $^3/_4 - {}^1/_3 =$

Problem Solving - Fractions

Solve the problems using the 4-step Plan. Show all your work, labeling each step and labeling your answer with the correct units.

1) Monday night Tyrell spent $^{2}/_{6}$ hour on his homework. Eva spent $^{5}/_{6}$ hour on hers. How much more time did Eva spend on homework than Tyrell? Simplify your answer, if necessary.

READ	
I know that . . .	I need to find out . . .
PLAN	
Create a Representation (picture, diagram, table)	I will choose the problem-solving strategy . . .
SOLVE	**CHECK**
Show your work	My answer is reasonable because . . .
FINAL ANSWER	
I found out that . . .	

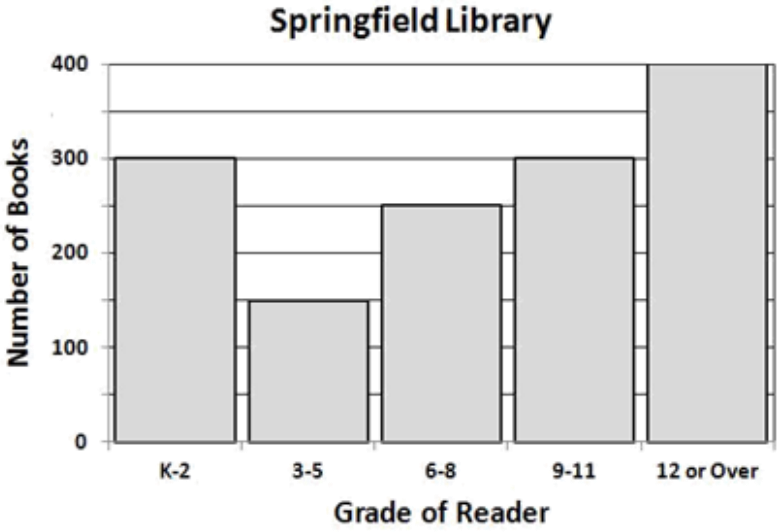
2) Mike needs $1\frac{1}{2}$ cups of flour to make a cake and $1\frac{3}{8}$ cups of flour to make a pie crust. How much flour does mike need to bake the cake and pie crust?

READ	
I know that . . .	I need to find out . . .
PLAN	
Create a Representation (picture, diagram, table)	I will choose the problem-solving strategy . . .
SOLVE	**CHECK**
Show your work	My answer is reasonable because . . .
FINAL ANSWER	
I found out that . . .	

Histograms

A **histogram** is a graph that shows how many items occur between two numbers.

The Springfield Library has books arranged by grade level.



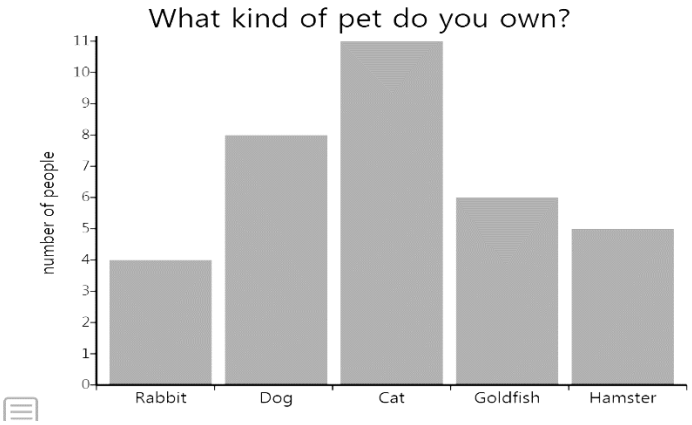
Use the histogram above to answer each question. Show all your work for numbers 4-6.

1) How many books are there for grades 3-5?	2) Which grade levels have the greatest number of books?	3) Which grade levels have the fewest number of books?
4) How many books are there for students in grade 6 and above?	5) How many books are in the Springfield Library?	6) What is the difference in the number of books for K-2 and the number of books for adults?

Bar Graph

A **Bar graph** is a graph drawn using rectangular bars to show how large each value is. The bars can be horizontal or vertical

Tom conducted a survey of his classmates. The results of his survey are represented by the graph below.



Use the bar graph above to answer each question. Show all your work for numbers 4-6.

1) Which pet is owned by the least number of students?	2) Which pet is the most popular?	3) How many students own a goldfish?
4) What is the difference between the number of students owning cats and the number owning dogs?	5) What is the total number of students owning a pet that is not a dog or cat?	6) List the pets in order from least to greatest in popularity.

Reading Tables and Charts

Tara couldn't wait to make a new flower garden in her back yard. She got the soil ready for the new plants. Here is a table of what she planted in the new flower garden.

Flower	Pink	Purple	White
Daffodil	16	0	30
Iris	21	26	43
Day Lily	24	0	12
Azalea	14	30	9
Roses	7	0	5

Read the table and answer the questions. Be sure to show all your work.

1) What is the total number of Iris bulbs Tara planted?	2) How many more white Daffodils did she plant than pink?	3) What is the total number of purple flowers Tara planted?
4) What is the total number of pink roses she placed in the garden?	5) What plant did she use the least in her garden?	6) Which color did she use the least in her garden?
7) What is the total number of Day Lily plants?	8) How many more Iris bulbs than Daffodil bulbs did Tara use?	

Reading a Pictograph

A **Pictograph** uses pictures or symbols to show the value of the data. Each image stands for a certain number of things.

Westside Fourth Grade sells ice cream cones at lunch to raise money for a field trip. For their math homework students had to create a pictograph showing the amount sold for one week. Below is one of the graphs.

Day	Number of Cones Sold
Monday	
Tuesday	
Wednesday	
Thursday	
Friday	
 = 10 cones	

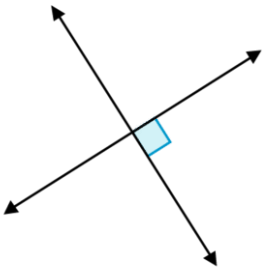
Use the pictograph to answer the questions. Be sure to show all your work.

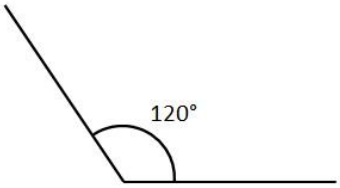
1) What is the total number of cones sold on Friday?	2) On which day were the most cones sold?	3) On which day were the most cones sold?
4) How many more cones were sold on Wednesday than Tuesday?	5) How many more cones were sold on Thursday than on Monday?	6) What was the total number of cones sold for the week?

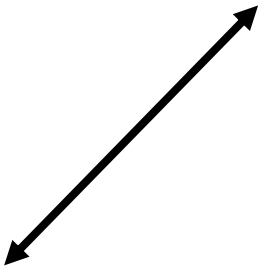
Geometry Connection

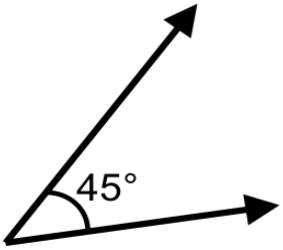
Use the following terms to label the pictures below.

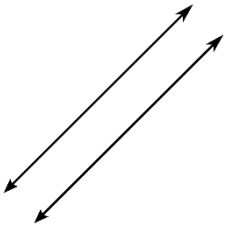
parallel lines	acute angle	ray
intersecting lines	obtuse angle	line segment
perpendicular lines	right angle	line

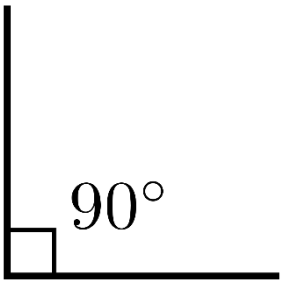


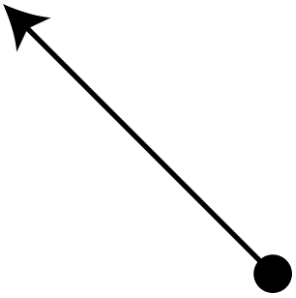


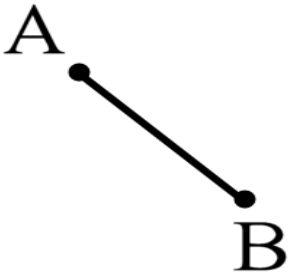


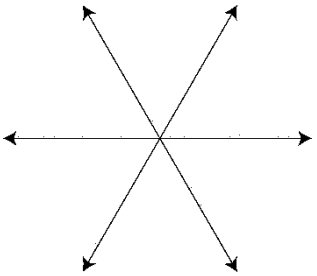








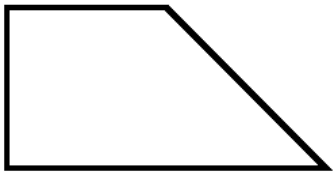


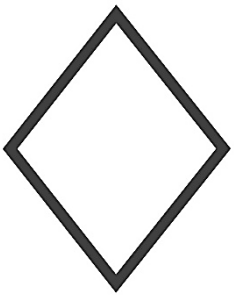


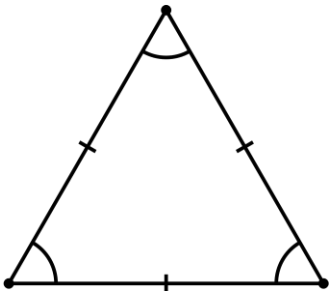
Geometry Connection

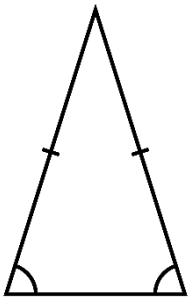
Use the following terms to label the pictures below.

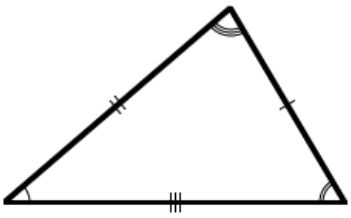
square	kite	equilateral triangle
rhombus	trapezoid	scalene triangle
parallelogram	rectangle	isosceles triangle

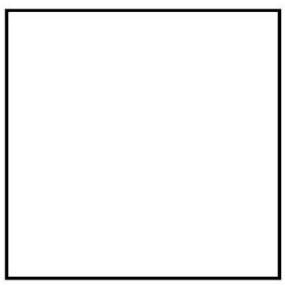


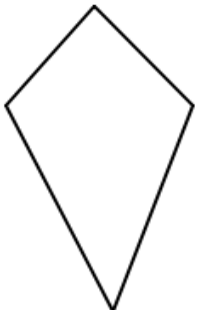






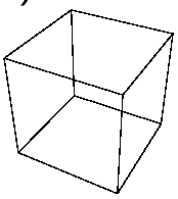






Geometry Connection

Answer each question.

1) How many sides does a hexagon have?	2) What is the measure of each angle of a rectangle?
3) Name 4 different quadrilaterals.	4) Explain what parallel means.
5) An exact location in space is called a _____ A. ray B. point C. line	6) Which polygon has 4 sides? A. pentagon B. hexagon C. octagon D. quadrilateral
7) The shape has how many faces? 	8) Arrange the following polygons in order from least to greatest number of sides. hexagon, triangle, decagon, pentagon
9) The union of two distinct rays with a common endpoint is _____ A. a triangle B. a point C. an angle D. a tangent	10) Which of the following groups is a square not a member of? A. quadrilateral B. parallelogram C. trapezoid D. rectangle
11) Define each of the following angles: obtuse – acute – right –	12) Draw one example of a polygon and one example that is not a polygon. Label you figures.

Shape Riddles

How well do you know your shapes? Read each riddle carefully and write the name of the shape.

1) I am any figure with four sides and four angles. Who do you think I am?	2) I am any closed shape with straight sides. Who am I?
5) I have no flat faces. My name rhymes with deer. Put me on a ramp, and I will roll. What Shape am I?	6) I have 1 flat face. I have 1 curved edge. Some kids like to put ice cream on me. What Shape am I?
8) I am a 4-sided shape. My opposite sides are parallel. My name has 5 syllables. What Shape am I?	10) I have 4 sides. My opposite angles are always equal. I am sometimes called a diamond. What shape am I?
3) All my sides are straight. I have as many sides as there are fingers on a hand. A famous building in Washington, D.C. is named after me. What Shape am I?	9) I have 3 fewer angles than a triangle. My sides are not straight. I have the same shape as the face of a quarter. What Shape am I?
7) I have 4 sides. I look like a hexagon cut in half. The first part of my name is something you catch a mouse in. What Shape am I?	4) Each of my sides is the same length. I have the same number of sides as a car has wheels. I am the same shape as each space on a checkerboard. What shape am I?