

# THINGS YOU SHOULD KNOW

## Measurement Conversions:

Metric Length	Metric Weight	Metric Capacity
10 mm = 1 cm 100 cm = 1 m 1,000 mm = 1 m 1,000 m = 1 km	1 kg = 1,000 g 1 g = 1,000 mg	1 kL = 1,000 L 1 L = 1,000 mL
Standard Length	Standard Weight	Metric Capacity
1 mi. = 1,700 yd. 1 mi. = 5,280 ft. 1 yd. = 3 ft. 1 ft. = 12 in.	16 oz. = 1 lb. 1 T = 2,000 lbs.	1 gal = 4 qt. 1 gal = 128 fl oz. 1 qt. = 2 pts. 1 pt. = 2 c. 1 c. = 8 fl oz.

## Formulas:

Area of squares and rectangles:  $A = l \cdot w$

Volume of rectangular prisms:  $V = l \cdot w \cdot h$

## Order of Operations:

**P** : Parenthesis

**E** : Exponents

**MD** : Multiplication OR

Division (from left to right)

**AS** : Addition OR Subtraction

(from left to right)

## Decimal Operations:

	The Steps
Add	<ul style="list-style-type: none"> <li>Line up the decimals.</li> <li>Fill in empty spaces with a zero.</li> <li>Add.</li> <li>Drop the decimal down into your answer.</li> </ul>
Subtract	<ul style="list-style-type: none"> <li>Line up the decimals.</li> <li>Fill in empty spaces with a zero.</li> <li>Subtract.</li> <li>Drop the decimal down into your answer.</li> </ul>
Multiply	<ul style="list-style-type: none"> <li>Multiply as you normally would.</li> <li>Count the number of decimal places in the factors.</li> <li>The product should have the same number of decimal places as the factors.</li> </ul>
Divide	<ul style="list-style-type: none"> <li>Divide as you normally would.</li> <li>Float the decimal up into your answer.</li> </ul>

## Fraction Operations:

	The Steps
Add	<ul style="list-style-type: none"> <li>Re-write each fraction with the LCD.</li> <li>Add the numerators.</li> <li>Simplify.</li> </ul>
Subtract	<ul style="list-style-type: none"> <li>Re-write mixed numbers as improper fractions.</li> <li>Re-write each fraction with the LCD.</li> <li>Subtract the numerators.</li> <li>Simplify.</li> </ul>
Multiply	<ul style="list-style-type: none"> <li>Re-write mixed numbers as improper fractions.</li> <li>Multiply straight across.</li> <li>Simplify.</li> </ul>
Divide	<ul style="list-style-type: none"> <li>Re-write mixed numbers as improper fractions.</li> <li>Flip the second fraction.</li> <li>Change the division sign to multiplication.</li> <li>Multiply straight across.</li> <li>Simplify.</li> </ul>

# SIMPLIFYING EXPRESSIONS

**Directions:** Simplify each expression using the order of operations.

1)  $60 - (2 \cdot 4) - 9$

2)  $2[3 + 2(5 - 1)]$

3)  $10 + (6 \div 2) - 4$

4)  $6 + 2[5 + (2 \cdot 3)]$

5)  $6(2 + 3) - 3(8 - 2)$

6)  $15 + 3[2(5 + 4) - 2]$

7)  $2(5) - 10$

8)  $18 - 2[14 - 3(2)]$

9)  $2 + 14 \cdot 2 \div 4$

10)  $81 \div 27 \cdot (8 - 5)$

11)  $\frac{15 + 30}{6 - 1}$

12)  $24 - 2(9)$

13)  $4 + 2(3 \cdot 4)$

14)  $40 \div 4 \cdot (3 - 2)$

15)  $(16 - 4) \cdot 4 + 3$

16)  $120 - 5[2(3 \cdot 2) - 2]$



# WRITING EXPRESSIONS

**Directions:** Write an expression to represent each verbal phrase.

1) Subtract 9 and 2, then multiply by 4.	2) Divide 8 by 2 and then add 1.	3) Triple 4 and then add 6.
4) Add 2 and 8 and then multiply by 2.	5) Double 6 and then divide by 3.	6) Add 4, 6 and 13.
7) Subtract 9 and 2 and add 5.	8) 4 plus the product of 2 and 7.	9) The sum of 6 times 5 and 9 minus 2.
10) 8 less than the quotient of 20 and 5.	11) The product of 4 and triple the number 2.	12) Multiply 5 and 7 and then divide by 5.
13) The difference of four times four and six.	14) 4 more than the difference of 10 and 2.	15) 20 divided by the product of 2 and 4.

# LINE PLOTS

**For #1 – 2:** Create a line plot with the given information.

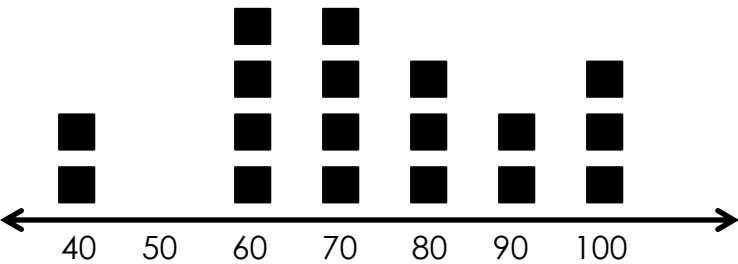
1. The ages of kids in an art club:  
 6, 8, 9, 8, 7, 10, 8, 9, 7, 7, 6, 9, 10, 10, 8, 8



2. The height of flowers in a garden:  
 12, 16, 17, 15, 16, 14, 15, 16, 17, 14, 14, 16, 19, 12, 14, 17



Use the line plot below to answer # 3 – 5.



3. The line plot shows test scores for a 10 question quiz. How many students scored higher than 70%?

4. How many students got a perfect score?

5. How many students scored 60% or lower?



# ROUNDING DECIMALS

1) Round 15.435 to the nearest tenth.	2) Round 567.065 to the nearest hundredth.	3) Round 874.32 to the nearest ten.
4) Round 4.623 to the nearest whole number.	5) Round 0.7845 to the nearest hundredth.	6) Round 71.963 to the nearest tenth.
7) Round 6.8245 to the nearest tenth.	8) Round 182.675 to the nearest hundred.	9) Round 42.96 to the nearest ten.
10) Round 18.096 to the nearest whole number.	11) Round 14.6734 to the nearest hundredth.	12) Round 28.946 to the nearest tenth.
13) Round 104.642 to the nearest tenth.	14) Round 13.811 to the nearest whole number.	15) Round 23.462 to the nearest hundredth.



# COMPARE & ORDER DECIMALS

1) Use $<$ , $>$ , or $=$ to compare the two numbers.  4.5 _____ 4.420	2) Use $<$ , $>$ , or $=$ to compare the two numbers.  0.67 _____ 0.8	3) Use $<$ , $>$ , or $=$ to compare the two numbers.  0.125 _____ 0.2
4) Use $<$ , $>$ , or $=$ to compare the two numbers.  0.82 _____ 0.820	5) Use $<$ , $>$ , or $=$ to compare the two numbers.  62.4 _____ 6.24	6) Use $<$ , $>$ , or $=$ to compare the two numbers.  5.23 _____ 5.3
7) Put the numbers in order from least to greatest.  0.3, 0.13, 0.32, 0.303	8) Put the numbers in order from least to greatest.  8.2, 0.82, 0.8, 0.08	9) Use $<$ , $>$ , or $=$ to compare the two numbers.  9.62 _____ 9.504
10) Put the numbers in order from greatest to least.  24.4, 24.54, 24.304, 24.24	11) Put the numbers in order from greatest to least.  6.05, 6.007, 6.5, 6.25	12) Use $<$ , $>$ , or $=$ to compare the two numbers.  1.324 _____ 1.42
13) Put the numbers in order from greatest to least.  0.2, 0.02, 0.22, 0.022	14) Put the numbers in order from greatest to least.  5.14, 5.4, 5.04, 5.1, 5.41	15) Put the numbers in order from least to greatest.  2.96, 2.9, 2.609, 2.906, 2.6



# ADDING FRACTIONS

1)  $\frac{1}{2} + 6\frac{2}{3}$

2)  $\frac{5}{8} + 2$

3)  $\frac{9}{10} + 3\frac{1}{2}$

4)  $4\frac{1}{5} + 6\frac{1}{2}$

5)  $3\frac{1}{4} + 4\frac{1}{2}$

6)  $9\frac{1}{3} + 4\frac{5}{6}$

7)  $\frac{11}{12} + \frac{3}{4}$

8)  $2\frac{1}{3} + 4\frac{1}{5}$

9) Jake ran  $3\frac{1}{2}$  miles Saturday and  $4\frac{5}{6}$  miles Sunday. How far did he run over the weekend?

10) Three sixth grade classes had a pizza party. They ate  $4\frac{3}{4}$ ,  $5\frac{1}{6}$  and  $6\frac{3}{8}$  pizzas. How much pizza did they eat altogether?



# SUBTRACTING FRACTIONS

1)  $8\frac{1}{2} - 4\frac{1}{5}$

2)  $6\frac{3}{4} - 2\frac{1}{8}$

3)  $5\frac{3}{5} - 1\frac{1}{3}$

4)  $10\frac{4}{5} - 3\frac{1}{2}$

5)  $9\frac{7}{8} - \frac{2}{3}$

6)  $15\frac{9}{10} - 4\frac{5}{8}$

7)  $8\frac{2}{3} - 5\frac{1}{5}$

8)  $4\frac{5}{6} - 1\frac{1}{8}$

9) You cut a  $2\frac{1}{3}$  foot section from an  $8\frac{1}{2}$  foot long piece of wood. How much is left?

10) Wayne ran  $3\frac{1}{2}$  miles out of a  $9\frac{2}{3}$  mile race. How much further does he have left to run?





# MULTIPLYING FRACTIONS

1)  $\frac{2}{5} \cdot \frac{7}{10}$

2)  $\frac{2}{3} \cdot 8$

3)  $\frac{5}{6} \cdot \frac{1}{2}$

4)  $10 \cdot \frac{4}{5}$

5)  $3\frac{1}{2} \cdot 4$

6)  $6\frac{1}{8} \cdot 2\frac{1}{2}$

7)  $4\frac{2}{3} \cdot 6\frac{1}{4}$

8)  $5\frac{1}{2} \cdot 5\frac{1}{2}$

9)  $8\frac{1}{3} \cdot 2\frac{1}{4}$

10)  $3\frac{3}{5} \cdot 6\frac{1}{5}$

11)  $9\frac{1}{2} \cdot 1\frac{7}{10}$

12)  $8 \cdot 2\frac{1}{2}$

13) You ran  $4\frac{1}{2}$  times around a  $2\frac{1}{4}$  mile track.  
How far did you run?

14) A car drove  $5\frac{3}{5}$  times around a  $2\frac{1}{8}$  mile track. How far did the car travel?

# DIVIDING FRACTIONS

1)  $\frac{2}{5} \div 8$

2)  $\frac{5}{6} \div 4$

3)  $\frac{7}{8} \div 2$

4)  $\frac{9}{10} \div 4$

5)  $3\frac{1}{2} \div 5$

6)  $6\frac{1}{5} \div 2$

7)  $9\frac{1}{3} \div 3$

8)  $5\frac{2}{5} \div 2$

9) You split  $8\frac{1}{2}$  pounds of strawberries equally among 5 containers. How many pounds of strawberries are in each container?

10) A  $12\frac{1}{5}$  inch long piece of ribbon is cut into 4 pieces. How long is each piece?

11) A  $4\frac{9}{10}$  foot long piece of wood is cut into 6 sections. How long is each section?

12) A  $12\frac{2}{3}$  pound bag of chocolate is split equally among 20 boxes. How much chocolate is in each box?



# AREA OF QUADRILATERALS

**Directions:** Find the area of each shape. Figures are not drawn to scale.

1)



4 in.

9 in.

2)



6.5 ft.

3)



2.15 cm

8 cm

4)



$4\frac{3}{4}$  in.

$12\frac{1}{2}$  in.

5)



3.4 m

6.8 m

6)



2.9 yd.

15 yd.

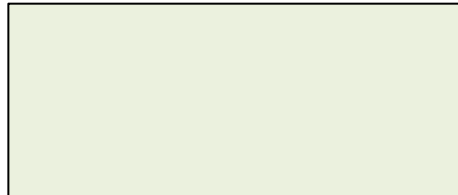
7)



8 in.

$8\frac{1}{4}$  in.

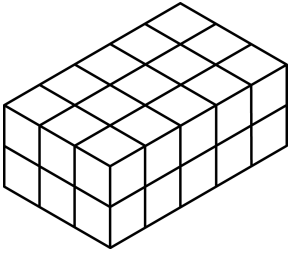
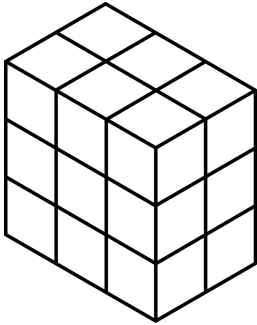
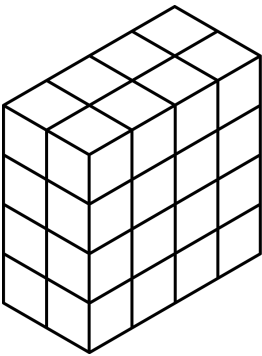
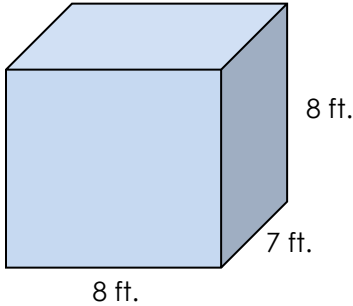
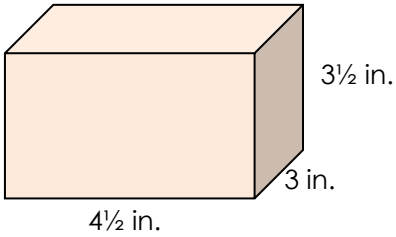
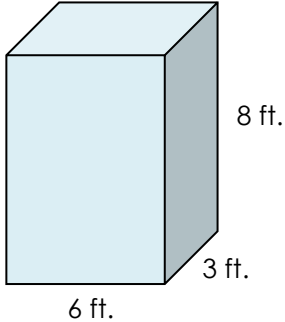
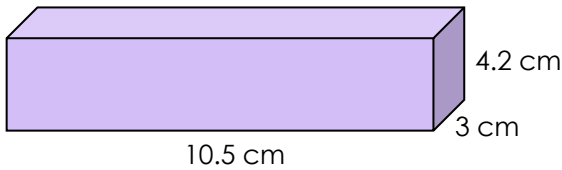
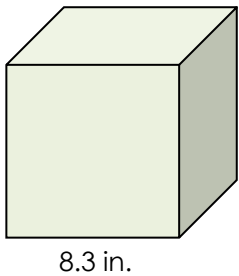
8)



$4\frac{1}{4}$  ft.

$10\frac{3}{5}$  ft.

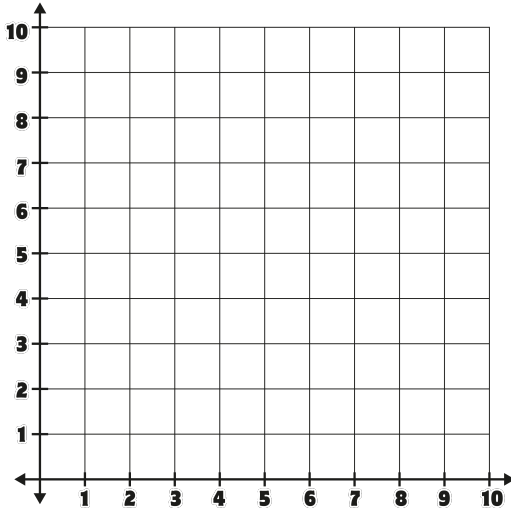
**Directions:** Find the volume of each figure. Figures are not drawn to scale.

<p>1)</p> 	<p>2)</p> 
<p>3)</p> 	<p>4)</p> 
<p>5)</p> 	<p>6)</p> 
<p>7)</p> 	<p>8)</p> 

# ➤➤➤ COORDINATE PLANES

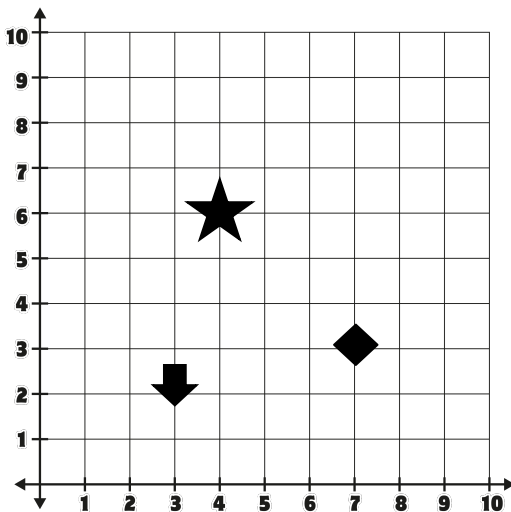
1) Plot the following points.

- A. (2, 3)
- B. (4, 1)
- C. (6, 3)
- D. (4, 5)

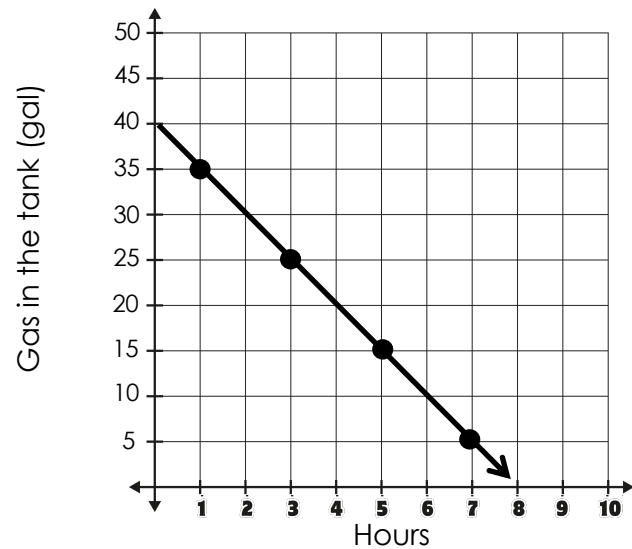


2) If you start at point (2, 2) and move right 3, then up 5, where do you end up?

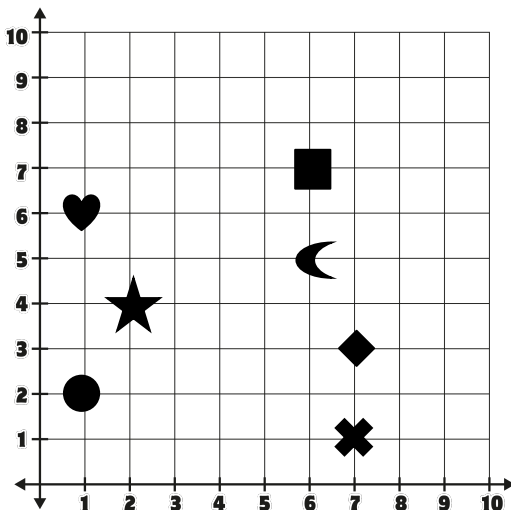
3) Which shape is closest to the point (2, 5)?



4) Based on the graph below, how much gas is left in the tank after 4 hours?



5) What shape is at (6, 7)?



6) What are the coordinates of the heart?

