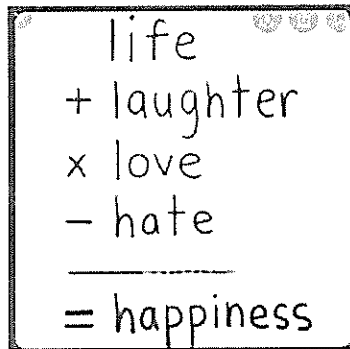


Summer Math Blasts
For Incoming 8th Grade Students



- Complete each week's assignment. Be sure to show work where appropriate. Make sure to read the directions carefully.
- If you feel like you need a refresher on the topic, be sure to check out the video links at the top of each week!
- Return any (you do not need to complete all 9 weeks) completed assignments to your 8th Grade Math teacher by the date stated on the first day of school.
 - Please put the weeks in order with your name at the top of each piece of paper (including any other paper that work may have been done on).
 - Either staple all pages together, paper clip all pages together, or place all the pages in a folder.
- Do NOT include copies of the Answer Keys or this cover sheet.
- Grading:
 - This is an optional assignment - it will in no way harm your grade - only help.
 - The assignment is worth 10 points.
 - 1 point for following directions on this page
 - Each week is worth 1 point but the entire worksheet must be completed and all work shown/included - NO WORK, NO CREDIT
 - Do not expect this assignment to be entered until closer to the end of the 1st quarter. This allows you to be aware of where you stand without the extra credit.

Name: _____

8th Grade Summer Work - Week 1

Fractions

Helpful Link:

1. [Operations with Fractions](#)

Friendly Reminders:

1. Make sure your work is nice, neat and organized.
2. Circle your final answer.
3. Just giving the answer is not enough.
4. Show all work in order to receive full credit!

Find the sum or difference.

$8\frac{3}{8} + 9\frac{2}{3} =$	$7\frac{7}{8} - 7\frac{5}{12} =$
$6 - 2\frac{8}{11} =$	$1\frac{5}{6} + 4 =$

Find the product or quotient.

$\frac{8}{21} \cdot 2\frac{7}{16} =$	$\frac{11}{12} \div \frac{13}{8} =$
$6\frac{3}{4} \cdot 1\frac{5}{9} =$	$2\frac{2}{9} \div 4\frac{2}{6} =$

Solve.

If $1\frac{1}{4}$ pounds of bananas sell for 80 cents and $1\frac{1}{3}$ pounds of apples sell for 90 cents, which fruit is cheaper?	Janie wants to make raisin cookies. She needs $8\frac{1}{2}$ cups of raisins for the cookies. A 15-ounce box of raisins contains $2\frac{3}{4}$ cups. How many boxes must Janie buy to make her cookies?
--	--

--	--

ANSWER KEY**8th Grade Summer Work - Week 1****Fractions****Find the sum or difference.**

$8\frac{3}{8} + 9\frac{2}{3} =$ $18\frac{1}{24}$	$7\frac{7}{8} - 7\frac{5}{12} =$ $\frac{11}{24}$
$6 - 2\frac{8}{11} =$ $3\frac{3}{11}$	$1\frac{5}{6} + 4 =$ $5\frac{5}{6}$

Find the product or quotient.

$\frac{8}{21} \cdot 2\frac{7}{16} =$ $\frac{13}{14}$	$\frac{11}{12} \div \frac{13}{8} =$ $\frac{22}{39}$
$6\frac{3}{4} \cdot 1\frac{5}{9} =$ $10\frac{1}{2}$	$2\frac{2}{9} \div 4\frac{2}{6} =$ $\frac{20}{39}$

Solve.

If $1\frac{1}{4}$ pounds of bananas sell for 80 cents and $1\frac{1}{3}$ pounds of apples sell for 90 cents, which fruit is cheaper? Bananas are cheaper	Janie wants to make raisin cookies. She needs $8\frac{1}{2}$ cups of raisins for the cookies. A 15-ounce box of raisins contains $2\frac{3}{4}$ cups. How many boxes must Janie buy to make her cookies? 4 boxes
---	---

Name: _____

8th Grade Summer Work - Week 2

Rounding

Helpful Links:

1. [Rounding](#)

Friendly Reminders:

1. Make sure your work is nice, neat and organized.
2. Circle your final answer.
3. Just giving the answer is not enough.
4. Show all work in order to receive full credit!

Decide whether you should round UP or DOWN using the place value specified.

1. 23 to the nearest ten. _____	2. 11,607 to the nearest thousand. _____
3. 43.657 to the nearest hundredth. _____	4. 99.95 to the nearest whole number. _____

Round. Circle the number that is the target place and underline the number that helps you determine whether to round up or down.

Example: Round 12,987.356 to the nearest tenth. 12,987 <u>3</u>56 rounds to 12,987.4	
5. Round 15,738 to the nearest ten _____ 15,738 to the nearest hundred _____ 15,738 to the nearest thousand _____	6. Round 18.7539 to the nearest ten _____ 18.7539 to the nearest hundredth _____ 18.7539 to the nearest thousandth _____

Name: _____

8th Grade Summer Work - Week 2

Rounding

7. Round the numbers to the nearest whole number. 3.4 _____ 10.6 _____	8. Round the numbers to the nearest tenth. 8.457 _____ 10.95 _____
9. Round the numbers to the nearest hundredth. 75.9824 _____ 324.001 _____	10. Round the numbers to the nearest tenth. 8.457 _____ 10.95 _____

Name: _____

8th Grade Summer Work - Week 3

Decimals

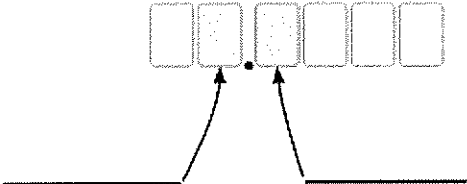
Helpful Links:

1. [Decimal Place Value](#)
2. [Decimal Arithmetic](#)

Friendly Reminders:

1. Make sure your work is nice, neat and organized.
2. Circle your final answer.
3. Just giving the answer is not enough.
4. Show all work in order to receive full credit!

Complete.

1. Name the number places. 	2. What is the place value of the digit "7" in this number? 25.07 _____
3. Which number is in the tenths place? 326.789 _____	4. Which number is in the hundreds place? 1234.567 _____

Evaluate. Do NOT use a calculator. Show all work.

5. $1.25 + 6.4 =$	6. $15.3 + 0.782 =$
-------------------------------------	---------------------------------------

Name: _____

8th Grade Summer Work - Week 3

Decimals

7. $20.55 - 3.4 =$	8. $6.5 - 2.86 =$
9. $4.15 \cdot 0.5 =$	10. $270.4 \cdot 0.16 =$
11. $3.864 \div 1.2 =$	12. $785 \div 1.5 =$

Helpful Links:

1. Rounding

Friendly Reminders:

1. Make sure your work is nice, neat and organized.
2. Circle your final answer.
3. Just giving the answer is not enough.
4. Show all work in order to receive full credit!

Decide whether you should round UP or DOWN using the place value specified.

1. 23 to the nearest ten. 20	2. 11,607 to the nearest thousand. 12,000
3. 43.657 to the nearest hundredth. 43.66	4. 99.95 to the nearest whole number. 100

Round. Circle the number that is the target place and underline the number that helps you determine whether to round up or down.

Example: Round 12,987.356 to the nearest tenth. 12,987.356 rounds to 12,987.4	
5. Round 15, <u>7</u>38 to the nearest ten 15,740 15, <u>7</u>38 to the nearest hundred 15,700	6. Round <u>18</u>.7539 to the nearest ten 20 18. <u>75</u>39 to the nearest hundredth 18.75

15,738 to the nearest thousand 16,000	18.7539 to the nearest thousandth 18.754
7. Round the numbers to the nearest whole number. 34 3 106 11	8. Round the numbers to the nearest tenth. 84.7 8.5 109.5 11.0
9. Round the numbers to the nearest hundredth. 75.9824 75.98 324.001 324.00	10. Round the numbers to the nearest ten. 7.234 10 1.55 0

Name: _____

8th Grade Summer Work - Week 4

Integers

Helpful Links:

1. [Adding and Subtracting Negative Numbers Part 1](#)
2. [Adding and Subtracting Negative Numbers Part 2](#)
3. [Multiplying and Dividing Negative Numbers Part 1](#)
4. [Multiplying and Dividing Negative Numbers Part 2](#)

Friendly Reminders:

1. Make sure your work is nice, neat and organized.
2. Circle your final answer.
3. Just giving the answer is not enough.
4. Show all work in order to receive full credit!

Evaluate. Show all work.

$21 + - 9 =$	$- 46 - - 18 =$
$- 831 - 616 =$	$13,894 + - 81,139 =$
$- 62 + - 33 + - 33 =$	$52 + - 41 - 60 =$
$14 \cdot - 6 =$	$\frac{144}{-12} =$
$(- 12)(-\frac{1}{3}) =$	$- 1.44 \div 0.3 =$
$- 12 \div - \frac{3}{4} =$	$\frac{-16}{\frac{8}{9}} =$

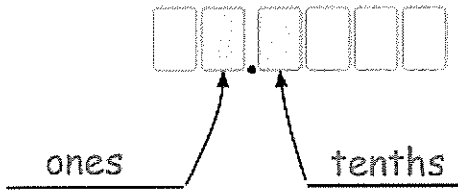
Helpful Links:

1. [Decimal Place Value](#)
2. [Decimal Arithmetic](#)

Friendly Reminders:

1. Make sure your work is nice, neat and organized.
2. Circle your final answer.
3. Just giving the answer is not enough.
4. Show all work in order to receive full credit!

Complete.

1. Name the number places. 	2. What is the place value of the digit "7" in this number? 25.07 $\frac{7}{100}$
3. Which number is in the tenths place? 326.789 7	4. Which number is in the hundreds place? 1234.567 2

Evaluate. Do NOT use a calculator. Show all work.

5. $1.25 + 6.4 = 7.65$	6. $15.3 + 0.782 = 16.082$
7. $20.55 - 3.4 = 17.15$	8. $6.5 - 2.86 = 3.64$
9. $4.15 \cdot 0.5 = 2.075$	10. $270.4 \cdot 0.16 = 43.264$
11. $3.864 \div 1.2 = 3.22$	12. $785 \div 1.5 = 523.33$

Name: _____

8th Grade Summer Work - Week 5

Order of Operations

Helpful Link:

1. [Order of Operations](#)

Friendly Reminders:

1. Make sure your work is nice, neat and organized.
2. Circle your final answer.
3. Just giving the answer is not enough.
4. Show all work in order to receive full credit!

Evaluate. Show all work.

$3 + 15 \div 3 - 4$	$4 + 2 \times 18 \div 6 - 9$
$8 \times 3 + 40 \div 5 - 8$	$7 + 10 \times 5 + 10$
$(10 - 2 - 2) \times 6 - 1$	$30 \div 5 + (5 \times 6) \times 19 + 4$
$3 - 2 + 3 + 7 \times (16 \div 8)$	$(11 - 8) \times 3 + 7 + 27 - 3$
$\frac{9^2 - 11}{(3 + 4)(10)}$	$\frac{2(6) - (4 + 2)}{(-2 - 4 - 6) \div (2 - 1)}$

ANSWER KEY**8th Grade Summer Work - Week 4****Integers****Evaluate. Show all work.**

$21 + - 9 =$ 12	$- 46 - - 18 =$ $- 28$
$- 831 - 616 =$ $- 1,447$	$13,894 + - 81,139 =$ $- 67,245$
$- 62 + - 33 + - 33 =$ $- 128$	$52 + - 41 - 60 =$ $- 49$
$14 \cdot - 6 =$ $- 84$	$\frac{144}{-12} =$ $- 12$
$(- 12)(- \frac{1}{3}) =$ 4	$- 1.44 \div 0.3 =$ $- 4.8$
$- 12 \div - \frac{3}{4} =$ 16	$\frac{-16}{\frac{8}{9}} =$ $- 18$

Name: _____

8th Grade Summer Work - Week 6

Geometry Review

Helpful Links:

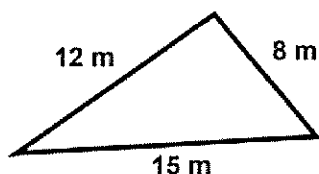
1. [Perimeter](#)
2. [Area](#)
3. [Volume](#)
4. [Circles](#)

Friendly Reminders:

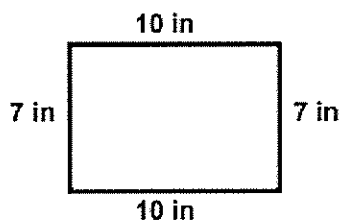
1. Make sure your work is nice, neat and organized.
2. Circle your final answer.
3. Just giving the answer is not enough.
4. Show all work in order to receive full credit!

Perimeter. Round answers to the nearest tenth, if necessary. Show your work

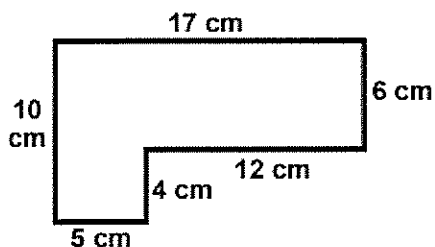
1. Find the perimeter of this polygon.



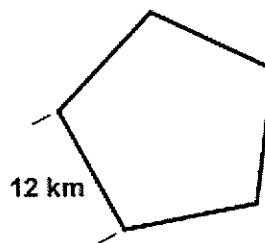
2. Find the perimeter of this polygon.



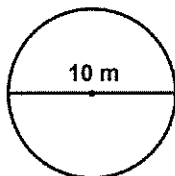
3. Find the perimeter of this polygon.



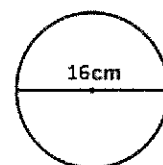
4. Find the perimeter of this **regular** polygon.



5. Find the circumference of this circle. Use 3.14 for π .



6. Find the circumference of this circle. Use 3.14 for π .

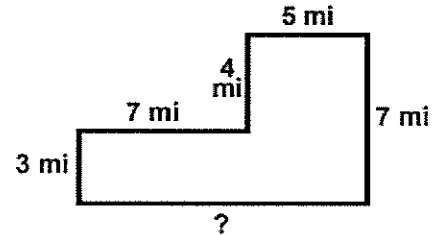


Name: _____

8th Grade Summer Work - Week 6

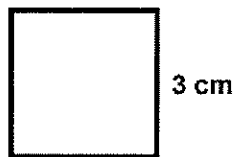
Geometry Review

7. Find the perimeter of this polygon. Use what you know to find the side that you don't know.

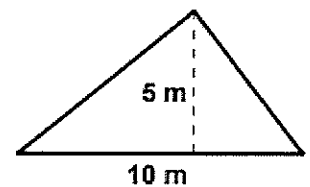


Area. Round answers to the nearest tenth, if necessary. Show your work.

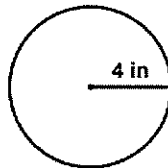
8. Find the area of the square.



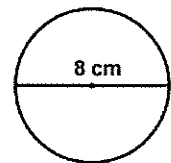
9. Find the area of the triangle.



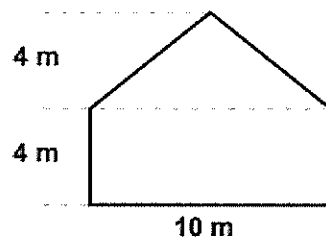
10. Find the area of the circle. Use 3.14 for π .



11. Find the area of the circle. Use 3.14 for π .



12. Find the area of this composite shape.



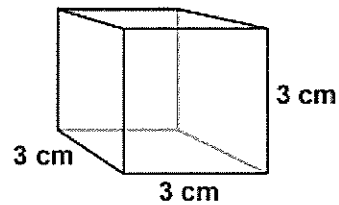
Name: _____

8th Grade Summer Work - Week 6

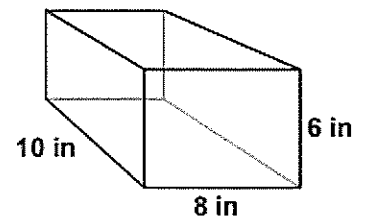
Geometry Review

Volume. Round answers to the nearest tenth, if necessary. Show your work.

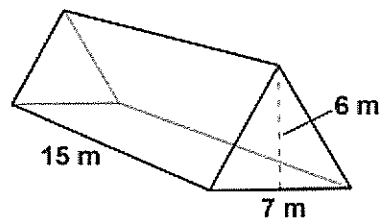
13. Find the volume of the cube.



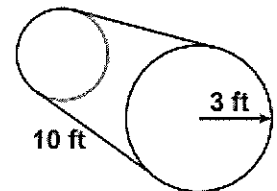
14. Find the volume of the rectangular prism.



15. Find the volume of the triangular prism.



16. Find the volume of the cylinder. Use 3.14 for π .



ANSWER KEY**8th Grade Summer Work - Week 5****Order of Operations****Evaluate. Show all work.**

$3 + 15 \div 3 - 4$ 4	$4 + 2 \times 18 \div 6 - 9$ 1
$8 \times 3 + 40 \div 5 - 8$ 24	$7 + 10 \times 5 + 10$ 67
$(10 - 2 - 2) \times 6 - 1$ 35	$30 \div 5 + (5 \times 6) \times 19 + 4$ 580
$3 - 2 + 3 + 7 \times (16 \div 8)$ 18	$(11 - 8) \times 3 + 7 + 27 - 3$ 40
$\frac{9^2 - 11}{(3 + 4)(10)}$ 1	$\frac{2(6) - (4 + 2)}{(-2 - 4 - 6) \div (2 - 1)}$ $-\frac{1}{2}$

Name: _____

8th Grade Summer Work - Week 7

Graphing Proportional Relationships

Helpful Links:

1. [Proportional Relationships](#)
2. [Interpret Points](#)

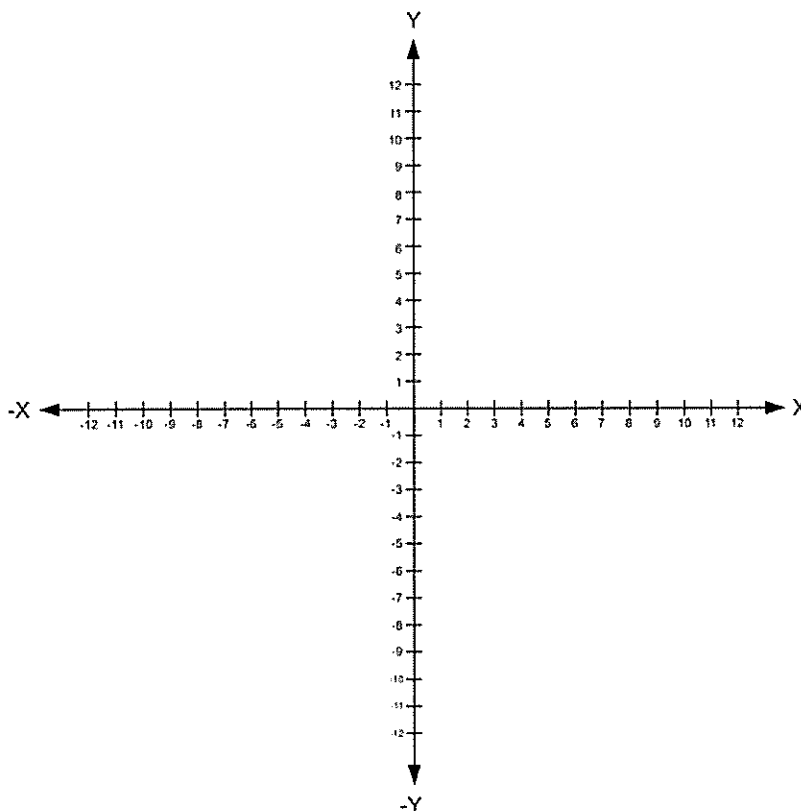
Friendly Reminders:

1. Make sure your work is nice, neat and organized.
2. Circle your final answer.
3. Just giving the answer is not enough.
4. Show all work in order to receive full credit!

Create the graph and answer the questions.

1.

x	2	3	4	5
y	5	7	9	11



a. Is the graph proportional? Yes or No.

b. How do you determine the answer to #1? Show or explain.

c. If it is proportional what is the unit rate? Show how you determined your answer.

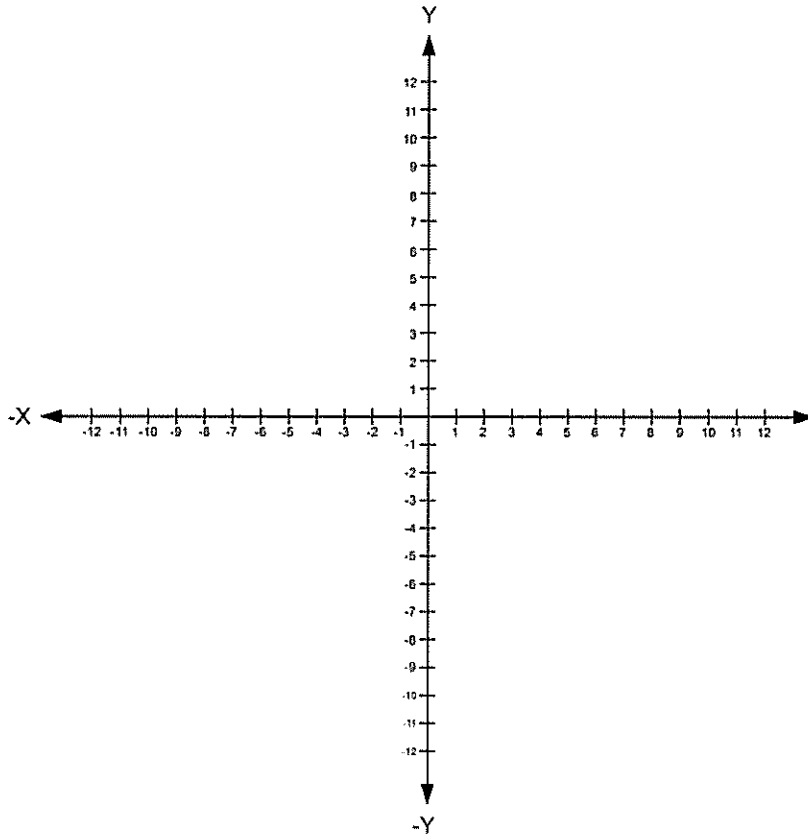
Name: _____

8th Grade Summer Work - Week 7

Graphing Proportional Relationships

2.

x	1	2	3	4
y	3	6	9	12



a. Is the graph proportional? Yes or No.

d. How do you determine the answer to #1? Show or explain.

e. If it is proportional what is the unit rate? Show how you determined your answer.

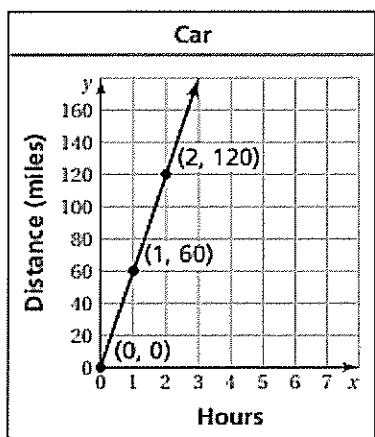
Name: _____

8th Grade Summer Work - Week 7

Graphing Proportional Relationships

Interpret each point and find the unit rate.

3.



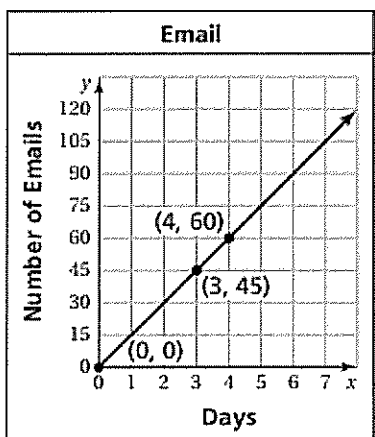
a. $(0, 0)$

b. $(1, 6)$

c. $(2, 120)$

d. What is the unit rate? Show/explain how you determined your answer.

4.



a. $(0, 0)$

b. $(3, 45)$

c. $(4, 60)$

d. What is the unit rate? Show/explain how you determined your answer.

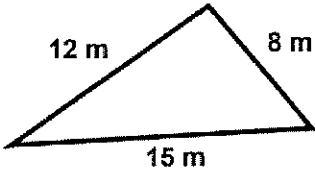
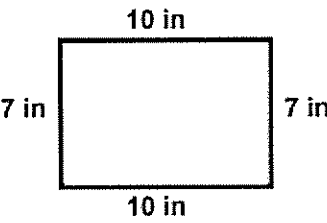
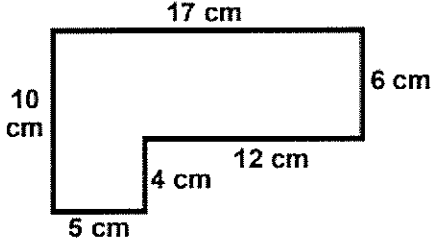
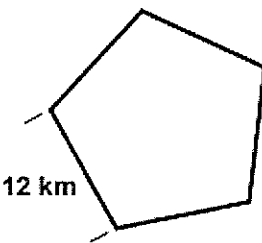
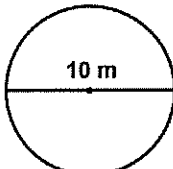
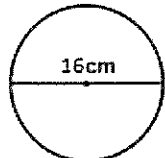
Helpful Links:

1. [Perimeter](#)
2. [Area](#)
3. [Volume](#)
4. [Circles](#)

Friendly Reminders:

1. Make sure your work is nice, neat and organized.
2. Circle your final answer.
3. Just giving the answer is not enough.
4. Show all work in order to receive full credit!

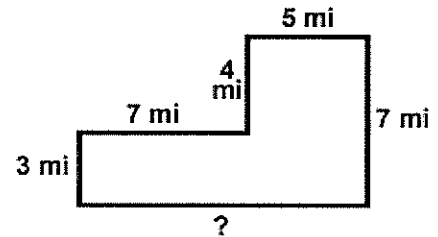
Perimeter. Round answers to the nearest tenth, if necessary. Show your work

1. Find the perimeter of this polygon.  35 m	2. Find the perimeter of this polygon.  34 in
3. Find the perimeter of this polygon.  54 cm	4. Find the perimeter of this regular polygon.  60 km
5. Find the circumference of this circle. Use 3.14 for π.  31.4 m	6. Find the circumference of this circle. Use 3.14 for π.  50.24 ft

7. Find the perimeter of this polygon. Use what you know to find the side that you don't know.

Missing side = 12 mi

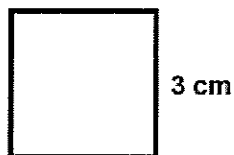
Perimeter = 38 mi



Area. Round answers to the nearest tenth, if necessary. Show your work.

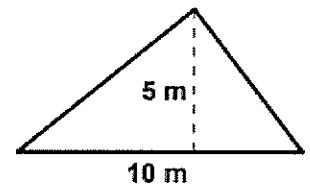
8. Find the area of the square.

9 sq. cm



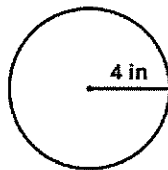
9. Find the area of the triangle.

25 sq. m.



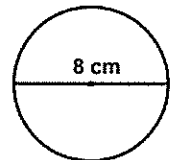
10. Find the area of the circle. Use 3.14 for π .

50.2 sq in.

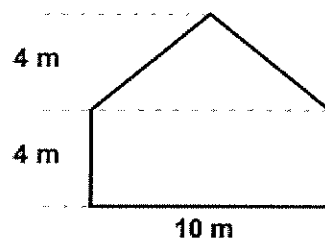


11. Find the area of the circle. Use 3.14 for π .

50.24 sq. cm



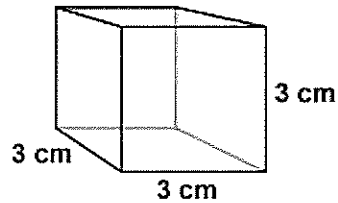
12. Find the area of this composite shape.



60 sq. m.

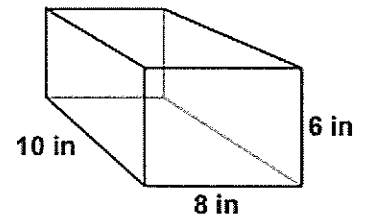
Volume. Round answers to the nearest tenth, if necessary. Show your work.

13. Find the volume of the cube.



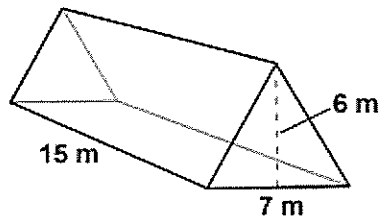
27 cu. cm

14. Find the volume of the rectangular prism.



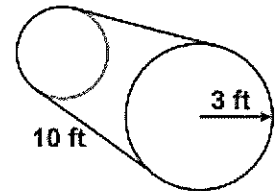
480 cu. in.

15. Find the volume of the triangular prism.



315 cu. m

16. Find the volume of the cylinder. Use 3.14 for π .



282.6 cu ft.

Name: _____

8th Grade Summer Work - Week 8

One-Step Equations

Helpful Link:

1. [One-Step Equations](#)

Friendly Reminders:

1. Make sure your work is nice, neat and organized.
2. Circle your final answer.
3. Just giving the answer is not enough.
4. Show all work in order to receive full credit!

Solve the equation. Include the variable in your final answer.

$z + 3.75 = 6.9$	$x - 11 = -5$
$7 + x = -2$	$-14 + y = -17$
$a - 2.91 = -1.48$	$-17x = 204$
$\frac{a}{18} = -5$	$16 = \frac{k}{11}$
$\frac{3}{4}x = 36$	$-12b = -288$

Helpful Links:

1. [Proportional Relationships](#)
2. [Interpret Points](#)

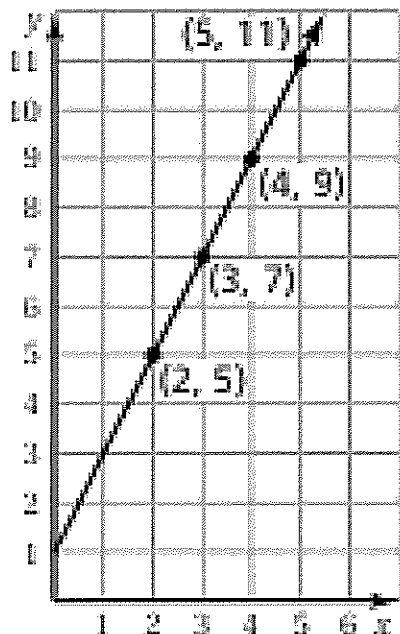
Friendly Reminders:

1. Make sure your work is nice, neat and organized.
2. Circle your final answer.
3. Just giving the answer is not enough.
4. Show all work in order to receive full credit!

Create the graph and answer the questions.

1.

x	2	3	4	5
y	5	7	9	11



a. Is the graph proportional? Yes or No.

No.

b. How do you determine the answer to #1? Show or explain.

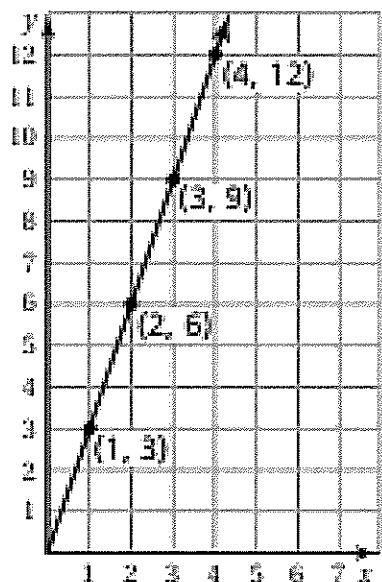
Graph does not start at the origin.

c. If it is proportional what is the unit rate? Show how you determined your answer.

n/a

2.

x	1	2	3	4
y	3	6	9	12



a. Is the graph proportional? Yes or No.

Yes

d. How do you determine the answer to #1? Show or explain.

The graph starts at the origin and is a straight line.

e. If it is proportional what is the unit rate? Show how you determined your answer.

Unit Rate = 3

$$\frac{3}{1} = 3$$

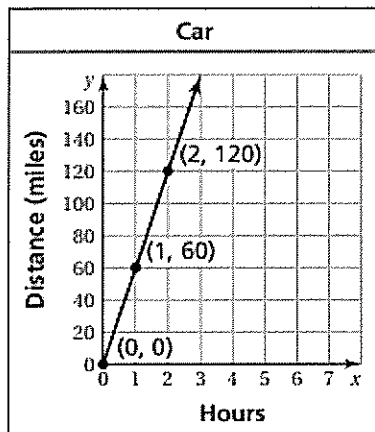
$$\frac{6}{2} = 3$$

$$\frac{9}{3} = 3$$

$$\frac{12}{4} = 3$$

Interpret each point and find the unit rate.

3.



a. (0,0)

The car travels 0 miles in 0 hours.

b. (1, 60)

The car travels 60 miles in 1 hour.

c. (2, 120)

The car travels 120 miles in 2 hours.

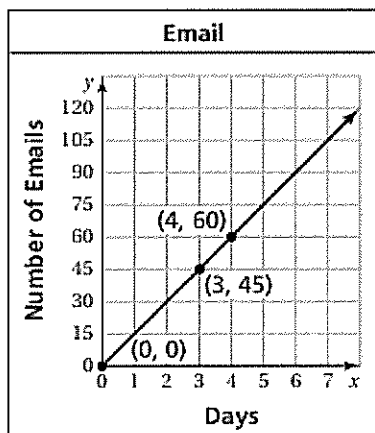
d. What is the unit rate? Show/explain how you determined your answer.

Unit Rate = 60 miles/1 hour

$$\frac{60 \text{ miles}}{1 \text{ hour}} = 60 \text{ miles/1 hour}$$

$$\frac{120 \text{ miles}}{2 \text{ hour}} = 60 \text{ miles/1 hour}$$

4.



a. (0, 0)

You received 0 emails in 0 days.

b. (3, 45)

You received 45 emails in 3 days.

c. (4, 60)

You received 60 emails in 4 days.

d. What is the unit rate? Show/explain how you determined your answer.

Unit Rate = 15 emails/1 day

$$\frac{45 \text{ emails}}{3 \text{ days}} = 15 \text{ emails/1 day}$$

$$\frac{60 \text{ emails}}{4 \text{ days}} = 15 \text{ emails/1 day}$$

Name: _____

8th Grade Summer Work - Week 9

Two-Step Equations

Helpful Link:

1. [Two-Step Equations](#)

Friendly Reminders:

1. Make sure your work is nice, neat and organized.
2. Circle your final answer.
3. Just giving the answer is not enough.
4. Show all work in order to receive full credit!

Solve the equation. Include the variable in your final answer.

$\frac{y}{4} - 12 = -19$	$8.6 = 2.1 - 1.3y$
$3x - 2 = -5$	$8x + 5 = 21$
$9 - 2x = 23$	$2(n + 5) = -2$
$\frac{x}{3.2} - 1.6 = 5.4$	$-243 = -9(10 + x)$
$8 + \frac{b}{-4} = 5$	$0.5x + 0.08 = 1.68$

ANSWER KEY**8th Grade Summer Work - Week 8****One-Step Equations****Solve the equation. Include the variable in your final answer.**

$z + 3.75 = 6.9$ $z = 3.15$	$x - 11 = -5$ $x = 6$
$7 + x = -2$ $x = -9$	$-14 + y = -17$ $y = -3$
$a - 2.91 = -1.48$ $a = 1.43$	$-17x = 204$ $x = -12$
$\frac{a}{18} = -5$ $a = -90$	$16 = \frac{k}{11}$ $k = 176$
$\frac{3}{4}x = 36$ $x = 48$	$-12b = -288$ $b = 24$

ANSWER KEY**8th Grade Summer Work - Week 9****Two-Step Equations****Solve the equation. Include the variable in your final answer.**

$\frac{y}{4} - 12 = -19$ $y = -28$	$8.6 = 2.1 - 1.3y$ $y = -5$
$3x - 2 = -5$ $x = -1$	$8x + 5 = 21$ $x = 2$
$9 - 2x = 23$ $x = -7$	$2(n + 5) = -2$ $n = -6$
$\frac{x}{3.2} - 1.6 = 5.4$ $x = 22.4$	$-243 = -9(10 + x)$ $x = 17$
$8 + \frac{b}{-4} = 5$ $b = 12$	$0.5x + 0.08 = 1.68$ $x = 3.2$

