Lesson 1C ~ The Four Operations

Name_____ Period_____ Date_____

Find the value of each expression. Show all work.

1. $28 \div 2 + 7 \times 3 - 1$

2. $3 \times 10 \div 2 - 11$

3. $1 + 13 - 18 \div 6 + 48 \div 8$

4. $5 \times 7 + 6 \times 4 + 0 \times 2$

5. Mike hosted a fundraiser to benefit the Children's Hospital and the Cancer Society. Twenty people came and each paid $30 to enter the event. An additional $800 was raised before the event.

a. Write a number expression to represent the total amount of money raised. Find the value of your expression.

b. Mike split the money equally between the two organizations. How much did each organization receive?

6. Create an expression that equals each number in the table below. You can only use the numbers 1, 2, 3, 4 and 5. Use all five numbers in each expression. Each number cannot be used more than once in an expression. Use at least one operation $(\times, \div, +, -)$ in each expression.

4		**14**	
7		**17**	
9		**21**	
11		**26**	
12		**27**	

Lesson 2C ~ Powers and Exponents

Name_____ Period_____ Date_____

The inverse (or opposite) of an exponent is a root. Roots "undo" the exponent. The symbol $\sqrt{\ }$ is called a square root. It undoes the operation of squaring a number.

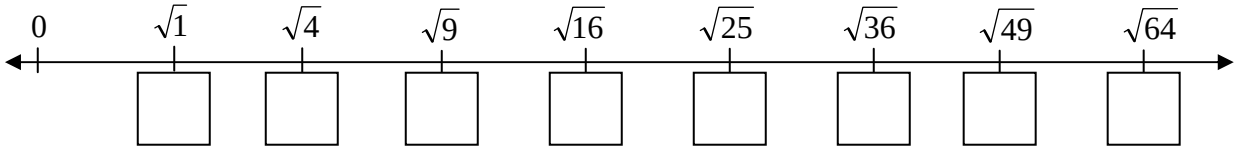
For example: $8^2 = 64$ $\sqrt{64} = 8$

Find the square root of each number.

1. $\sqrt{25}$ **2.** $\sqrt{9}$ **3.** $\sqrt{81}$

4. $\sqrt{1}$ **5.** $\sqrt{400}$ **6.** $\sqrt{\frac{1}{4}}$

7. Fill in the values of each square root on the number line.



Some square root values are not whole numbers. Use the number line above to help determine the two numbers each square root falls between.

8. $\sqrt{5}$ Between _____ and _____ **9.** $\sqrt{59}$ Between _____ and _____

10. $\sqrt{13}$ Between _____ and _____ **11.** $\sqrt{26}$ Between _____ and _____

12. $\sqrt{15}$

a. What two integers is $\sqrt{15}$ between? _____ and _____

b. Which integer is it closer to? _____

c. Estimate the value of $\sqrt{15}$ to the nearest tenth. _____

Lesson 3C ~ Order of Operations with Powers

Name_____ Period_____ Date_____

Fill in the box with a number from 1 to 10 that makes the equation true.

1. $5+\square^{2}\times 3=53$

2. $\square-10^{2}\div 25=4$

3. $40\div 8\times 2+4-\square=8$

4. $6^{2}\div 3+\square-3^{2}=13$

5. $21\times 2-3\times 2^{3}+\square^{4}=19$

6. $2^{2}+2^{3}+2^{4}-2^{\square}=20$

Use the numbers 1, 2, 3, 4 and 5 once in each expression to create an answer that meets each criteria. Each expression must use at least one exponent and at least two different types of operations.

Example: Has an answer that is even. $2^{3}+1-5+4$ Uses each number once and equals 8, which is even.

7. Has an answer that is odd.

8. Has an answer that is divisible by 3.

9. Has an answer larger than 100.

10. Has an answer that is a prime number.

11. Has an answer that is between 50 and 60.

12. Has an answer equal to 24.

Lesson 4C ~ Order of Operations with Grouping Symbols

Name_____ Period_____ Date_____

Find the value of each expression. Show all work.

1. $7 \times (6-2)^2 - 20 \div 5$

2. $26 + 2 - \dfrac{2^2 + 4 \times 11}{4 + 12}$

3. $\dfrac{(2+3)^2 - 5}{2^2} + 6 - 3$

4. $\dfrac{10 \times 3 - 2}{5 - 3} - 1^5 + 4 \times 2$

5. Kari had \$2. Her dad told her if she did all her chores for the entire year, he would take her \$2 in exchange for the following…

i. Raise her money to the power of 5.
ii. Multiply the new value by 10.
iii. Cut the new value in half.
iv. Add \$10 to the new value.

a. How much money would she end up with if she did all her chores?

b. Her dad told her she could switch one of the steps with another step in the order above. Which steps should she switch? How much will she receive if he uses the new order?

Insert operations $(\times, \div, +, -)$ **in each box in the numerical expressions to make it equal the stated amount.**

6. $(7 \square\ 3)^2 \ - \ 2 \square\ 4 = 92$

7. $9 \square\ 3 \square\ 6 \square\ 3 = 6$

8. $(10^2 \square\ 2 \square\ 1) \square\ (3 \square\ 4) = 7$

Lesson 5C ~ Number Properties

Name_____ Period_____ Date_____

Use the Commutative and/or Associative Properties to group numbers and solve the following problems. Explain your reasoning in words.

1. Burt purchased 23 comic books at one store. He purchased 79 comic books at another store. At the last store he stopped at, he bought 27 comic books. How many did he buy in all?

Work and Answer:

Reasoning for grouping/order of calculations:

2. Olivia gained 14.6 pounds in her first year of life. In her second year, she gained 10.4 pounds. From age 2 to age 3, she gained 9.8 pounds. How much weight did she gain in her first three years of life?

Work and Answer:

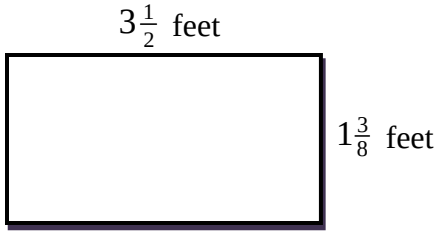
Reasoning for grouping/order of calculations:

3. Determine if each equation is true or false. If the equation is true, identify the property shown.

Equation	True or False	Property
$9-(7-3)=(9-7)-3$		
$(5\times 1)\times 4=5\times(1\times 4)$		
$12\div 4=4\div 12$		
$19+11=11+19$		

4. Use the Commutative Property to write three equivalent numerical expressions using the numbers 4, 5 and 8.

5. Jack wants to find the perimeter of the rectangle at right. How should he use the Associative Property to make his calculations easiest?



Lesson 6C ~ Variables and Expressions

Name_____ Period_____ Date_____

Saul's Corner Market sells large candy bars for $2 each. A bag of pretzels is $3.

On Tuesday, the store sold twice as many candy bars as Monday but the same number of pretzels. On Wednesday, the store sold the same number of candy bars as Monday but only half the amount of pretzels. On Thursday, the store sold three times as much as they sold on Tuesday. On Friday, the store sold 12 fewer candy bars and 5 more bags of pretzels compared to Wednesday.

Let *c* represent the number of candy bars sold and *p* represent the number of pretzels sold on Monday. Write an expression for each day to show the amount of money that the store brought in from candy bars and pretzels.

1. Monday

2. Tuesday

3. Wednesday

4. Thursday

5. Friday

6. Monday through Friday

The store sold 24 candy bars and 16 bags of pretzels on Monday. How much money did the store bring in each day?

7. Monday

8. Tuesday

9. Wednesday

10. Thursday

11. Friday

12. Monday through Friday

Lesson 7C ~ Evaluating Expressions

Name_____ Period_____ Date_____

Functions are used in most high school and college math courses. Function notation is a different way to show what value you are substituting into an expression.

For example: $f(x) = x + 5$ **is read "*f* of *x* equals *x* + 5"**

When a number is in the parentheses, this number is substituted for the variable it replaced.

For example: $f(9) = ??$

Substitute 9 in for *x* in the equation above. $f(9) = 9 + 5 = 14$

$f(9) = 14$

Use the function $f(x) = 2x + 3$**. Find each of the following.**

1. $f(2)$ **2**. $f(7)$ **3**. $f(10)$

4. $f(\frac{1}{2})$ **5**. $f(1.5)$ **6**. $f(0)$

Use the function $f(x) = x^2 + x - 1$**. Find each of the following.**

7. $f(1)$ **8**. $f(7)$ **9**. $f(4)$

Sometimes, you may put a value through multiple functions. Always start with the function inside the parentheses and then use the new value in the second (outside) function.

For example: Find $g(f(2))$ **when** $f(x) = 3x$ **and** $g(x) = x + 7$**.**

First find $f(2)$**.** $f(2) = 3(2) = 6$

Then plug 6 into $g(x)$**.** $g(6) = 6 + 7 = 13$

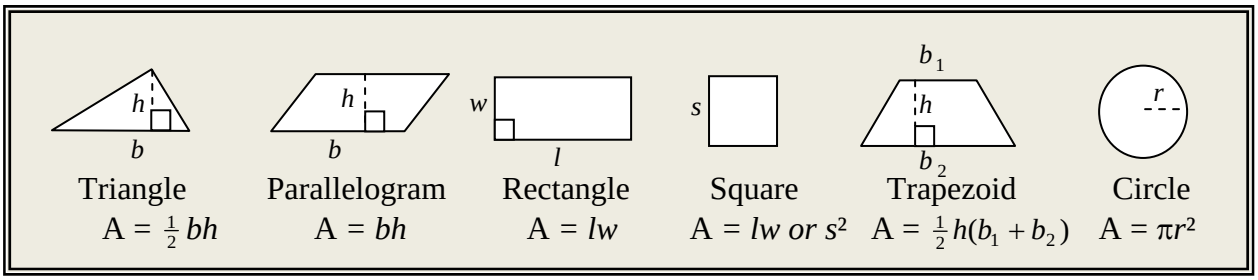
Answer: $g(f(2)) = 13$

Use the function $f(x) = x - 3$ **and** $g(x) = x^2 + 1$**. Find each of the following.**

10. $g(f(5))$ **11**. $f(g(8))$ **12**. $g(f(10))$

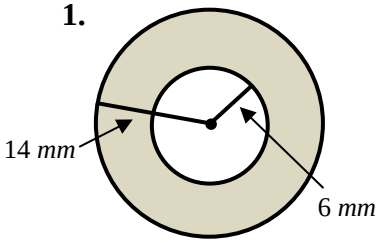
Lesson 8C ~ Evaluating Geometric Formulas

Name_____ Period_____ Date_____



Calculate the area of each shaded region. Use 3.14 for π.

1.



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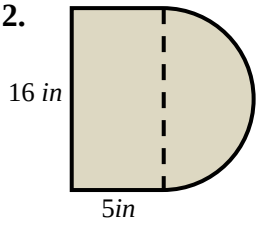

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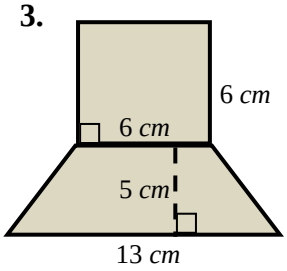

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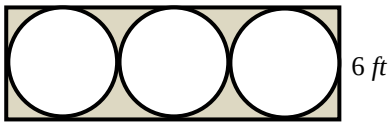

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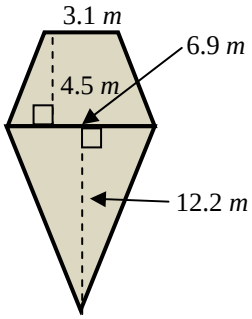
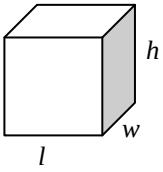


Use the formulas for the volume and surface area of a rectangular prism to answer the questions.



Volume = lwh

Surface Area = $2(lw + wh + hl)$

6. A rectangular prism has a side length of 5. The width is twice the length. The height is two less than the width. What is the volume of the prism?

7. Find the surface area of the rectangular prism described in #6.

Lesson 9C ~ Evaluating More Formulas

Name_____ Period_____ Date_____

Compound interest is money that is paid on the starting amount as well as previous years' interest that has been added to the account. Use the annual compound interest formula, $N = p(1+r)^t$, to determine the new value (N) in the account after t years. Remember that p is the amount you started with. Round your answer to the nearest cent.

1. Find the new value (N) in an account when p = \$300, r = 5% and t = 4 years.

2. Find the new value (N) in an account when p = \$1500, r = 8% and t = 3 years.

3. BreShay deposited \$800 in an account that is compounded annually at 3% interest.

a. How much money will she have after 4 years?

b. How much total interest did she earn?

c. If she had placed her money in a simple interest account ($I = p \cdot r \cdot t$), how much interest would she have earned?

d. How much more did she earn with compound interest?

Many banks give compound interest each month. Use the monthly compound interest formula, $N = p(1+\frac{r}{12})^{12t}$, to find the new values in an account compounded monthly. Remember that t represents the number of years.

4. Find the new value (N) in an account when p = \$300, r = 5% and t = 4 years.

5. Find the new value (N) in an account when p = \$1500, r = 8% and t = 3 years.

6. Compare the answers from #4 and #5 to the answers in #1 and #2. Would you prefer to have your money compounded annually or monthly? Why?

Lesson 10C ~ Simplifying Algebraic Expressions

Name_____ Period_____ Date_____

Match each expression on the left to its simplified expression on the right. Make sure to only combine terms with the exact same variable combination.

1. $6x - y + 5x + y$

2. $2x + 10xy - 7xy + 4x$

3. $5x^2 + 8x - 2x - 5x^2$

4. $12xy + 8x + 5x + 2y - 2y - 2xy$

5. $19x + 3x^2 + 2x - x^2 - 10x + 5x^2$

6. $7y + 3xy - 1xy + 14x - 2y + 5x - 5y$

A. $11x + 7x^2$

B. $6x$

C. $3xy + 6x$

D. $11x$

E. $2xy + 19x$

F. $10xy + 13x$

Write the word phrase to describe the given expression. Then simplify and write the word phrase to describe the simplified expression.

	Expression	Simplified Expression	Simplified Word Phrase
7.	$12y + 3x - 2y + 4x$		
8.	$2x^2 + 3x^2 - x^2$		
9.	$5w - 2w + 3w + w$		
10.	$4xy - 2xy + 3xy$		

Lesson 11C ~ The Distributive Property

Name_____ Period_____ Date_____

The Distributive Property can be used to help calculate products mentally. In some cases, numbers are separated into two parts. In other cases, you can separate the number into more than two parts. Use place value to break down each number into its parts.

Example: 1,249 = 1000 + 200 + 40 + 9

1. 286 = _____ **2.** 3,075 = _____

3. 17.3 = _____ **4.** 6.932 = _____

Use the Distributive Property to evaluate each expression.

5. $3(67) = 3(60 + 7) =$ _____+ _____ = _____

6. $5(231) = 5($____+ ____+ ____) = _____+ _____+ _____ = _____

7. $8(9.82) = 8($____+ ____+ ____) = _____+ _____+ _____ = _____

8. $2(546.9) = 2($_____+ _____+ _____+ _____) = _____+ _____+ _____+ _____ = _____

Use the Distributive Property to find each product. Break the second number into more than two parts as shown in #5 through #8. Show your work.

9. 4(17.3)

10. 6(128)

11. 5(9.84)

12. 8(2536)

13. How is breaking a number up into its parts before multiplying similar to the multiplication process taught to most students in elementary school?

$$\begin{array}{r} 2536 \\ \times \quad 8 \\ \hline 20288 \end{array}$$

Lesson 12C ~ Using the Distributive Property with Variables

Name_____ Period_____ Date_____

The Greatest Common Factor (GCF) is the largest number that divides a set of numbers. The GCF can be used when factoring. Factoring is a process in which an expression is broken into smaller parts. This is done by pulling out the GCF. Look at the example below.

Example: $4x + 6$
GCF between $4x$ and 6 is 2.
Divide 2 from each term to get: $2(2x + 3)$
Check your work by distributing: $2(2x + 3) = 4x + 6$

Factor each expression using the GCF. Check your work using the Distributive Property.

1. $3x + 12$

☑

2. $6x - 10$

☑

3. $20x - 16$

☑

4. $50x + 90$

☑

5. $44 + 22x$

☑

6. $7x - 21$

☑

7. $12 - 36x$

☑

8. $100x + 75$

☑

Simplify each expression. Then factor the simplified expression using the GCF.

9. $4(h + 8) + 2h - 1 + 2h - 7$

10. $2(y + 5) + y - 4$

11. $3(2p + 1) + 9p + 2$

12. $10x + 4(x + 5) + 1$

Lesson 13C ~ Equations and Solutions

Name_____ Period_____ Date_____

Match each equation on the left with its solution on the right.

1. $x + 5 = 17$ **A.** $x = 40$

2. $4x = 36$ **B.** $x = 7$

3. $\frac{x}{5} = 8$ **C.** $x = 9$

4. $18 - x = 14$ **D.** $x = 4$

5. $1.5 + x = 4.5$ **E.** $x = 3$

6. $x - \frac{1}{2} = 6\frac{1}{2}$ **F.** $x = 12$

Some equations have two variables. In each row of the tables below, you are given either the *x* or the *y* value for the equation. Use this information to find the missing values in each table.

7. $y = 2x + 9$

x	*y*
1	
4	
	27

8. $y = x^2 - 2$

x	*y*
3	
7	
	98

9. $y = 17 - x$

x	*y*
5	
11	
	1

10. $y = 5 + 4x$

x	*y*
2	
8	
	85

Lesson 14C ~ Solving Equations Using Mental Math

Name_____ Period_____ Date_____

Write an equation for each situation. Solve each puzzle using mental math.

1. Larry added 15 to a number and got 33. What number did he start with?

2. Leslie opened a bank account. She took out $25. She had $143 left in the account. How much did she put in the account when she opened it?

3. Kylynn had some money in her wallet. She bought an item for $12.50 and had $3.75 left in her wallet. How much did she have in her wallet before buying the item?

4. Myrell had a bag of marbles. His mom added 24 marbles to the sack and his dad put in 53. He ended up with 102 marbles. How many did he have to begin with?

5. Gina had $20. She spent some money on a shirt and then earned $17 babysitting. She ended up with $25. How much did she spend on the shirt?

6. The Steamboat Soccer Organization had 42 people try-out for a team. They cut some people at the beginning of the season and 4 other people got injured during the season. At the end of the season, they had 21 people. How many people did they cut at the beginning?

7. Kara divided all of her holiday candy evenly between her 4 friends. Each person received 1.25 pounds of candy. How many pounds of candy holiday candy did she have to split between her friends?

8. Harley the Hound gained 7.5 pounds last year. This year he lost 3 pounds. Now he weighs 24.5 pounds. How much did he weigh at the beginning of last year?

9. Tom tripled his money by working all Saturday. He now has $96. How much did he have before Saturday?

Lesson 15C ~ Solving Addition Equations

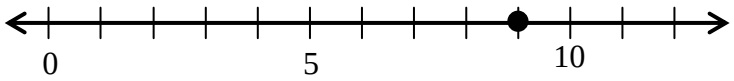
Name_____ Period_____ Date_____

Solve each equation or inequality. Graph the solution on a number line. See the Tic-Tac-Toe activity on page 100 in Oregon Focus on Introductory Algebra for examples of <u>inequalities</u>. The first one is done for you to show you how to graph the solution to an <u>equation</u>.

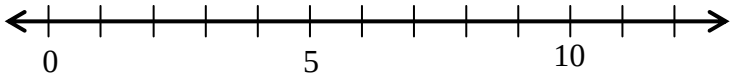
1. $x + 3 = 12$

$-3 \quad -3$

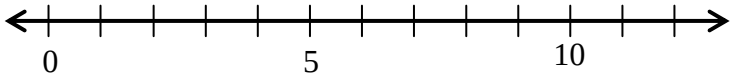
$x = 9$



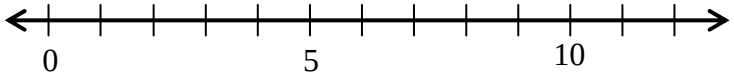
2. $f + 4 < 11$



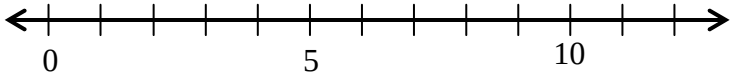
3. $p + 2.7 = 6.1$



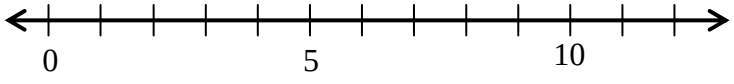
4. $t + 21 > 23$



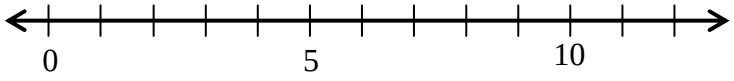
5. $13 > m + 12$



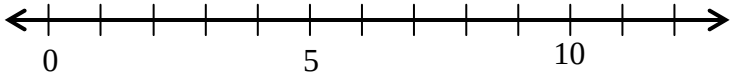
6. $w + 3\frac{1}{2} = 9$



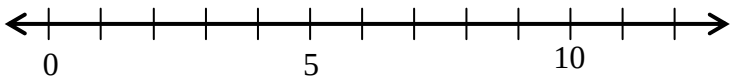
7. $y + 199 < 210$



8. $7\frac{3}{4} < x + 3\frac{1}{2}$



9. $j + 13.5 = 22$



Lesson 16C ~ Solving Subtraction Equations

Name_____ Period_____ Date_____

Solve each equation using inverse operations. Write all fraction answers in simplest form. Check your solution.

1. $y - 237 = 340$

2. $x - 1.24 = 9.5$

3. $3\frac{1}{4} = p - 7\frac{1}{2}$

4. $m - 32.1 = 5.09$

5. $x - 6\frac{1}{10} = \frac{3}{5}$

6. $0.8 = w - 0.06$

7. $g - \frac{2}{3} = \frac{1}{4}$

8. $2014 = d - 806$

9. $j - 5\frac{5}{6} = 3\frac{4}{5}$

Write a word phrase for each equation. You must use each term in the box AT LEAST once.

is	equals	less than
subtract	take away	minus

10. $y - 46 = 54$

11. $14 = x - 24$

12. $m - \frac{2}{3} = \frac{5}{6}$

13. $7.4 = p - 4.7$

14. Find the solution for each equation in #10 through #13.

Lesson 17C ~ Solving Multiplication and Division Equations

Name_____ Period_____ Date_____

Solve each equation using inverse operations. Check your solution. Remember, when dividing by a fraction, you multiply by the reciprocal of the fraction.

Example Solve for x: $\frac{2}{3}x = 6$

Multiply both sides by the reciprocal of $\frac{2}{3}$ (which equals $\frac{3}{2}$): $\frac{3}{2} \cdot \frac{2}{3}x = 6 \cdot \frac{3}{2}$

Multiply. $x = 9$

1. $7x = 721$

2. $\frac{4}{5}y = 8$

3. $\frac{p}{2} = 3.6$

4. $\frac{m}{1.2} = 5.5$

5. $\frac{2}{9}b = \frac{4}{3}$

6. $11 = \frac{f}{33}$

7. $\frac{c}{4} = 8.2$

8. $4.2x = 6.3$

9. $\frac{3}{7}x = 4$

Write your answer as a mixed number.

Write an algebraic equation for each problem. Solve each equation.

10. Kristina is four-fifths as old as her sister. Kristina is 12 years old. Write a multiplication equation and solve the equation to determine her sister's age.

11. Keaton sold three-fourths as much as Jimmy during a fundraiser. Keaton sold 60 products. How many products did Jimmy sell?

Lesson 18C ~ Mixed One-Step Equations

Name_____ Period_____ Date_____

Solve each equation using inverse operations. Write a second equation using a different operation that has the same answer. The first one is done for you.

1. $x + 4 = 17$

Answer: $x = 13$
New Equation: $2x = 26$

2. $6 = \frac{y}{4}$

3. $m - 36 = 24$

4. $3.5 + k = 4.9$

5. $7x = 84$

6. $\frac{p}{5} = 15$

7. $256 = w - 34$

8. $x + 2\frac{1}{3} = 5\frac{5}{6}$

9. $\frac{h}{5} = \frac{4}{10}$

Solve each equation using inverse operations. Write three more equations, each using a different operation, that has the same answer as the first. Each problem should have one equation for each operation $(\times, \div, +, -)$.

10. $4 = \frac{m}{5}$

11. $6h = 96$

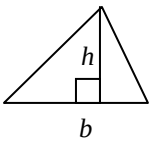
12. $y - 43 = 51$

13. $x - \frac{1}{6} = \frac{1}{3}$

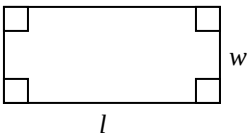
Lesson 19C ~ Formulas and Equation-Solving

Name_____ Period_____ Date_____

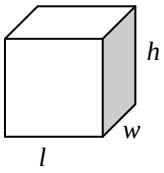
Formulas to use in the exercises:



Area = $\frac{1}{2}bh$



Area = $l \cdot w$



Volume = lwh

Other Formulas

$I = p \cdot r \cdot t$

$d = rt$

$B = \frac{h}{a}$

For each exercise, write a real-life story problem that involves the specified formula. Write the problem so inverse operations must be used to solve the problem. Give the answer to each problem.

1. Triangle Area Answer: _____

2. Rectangle Area Answer: _____

3. Volume of a Rectangular Prism Answer: _____

4. Simple Interest Formula ($I = p \cdot r \cdot t$) Answer: _____

5. Distance Formula ($d = rt$) Answer: _____

6. Batting Average Formula ($B = \frac{h}{a}$) Answer: _____

Lesson 20C ~ Solving Two-Step Equations

Name_____ Period_____ Date_____

Solve each equation for the variable by using the Distributive Property. Check your solution.

1. $4(x+8)=40$

$+ \qquad = 40$

Distribute first, then rewrite the equation and solve.

2. $5(x-2)=15$

3. $2(x+7)=20$

4. $6(x-3)=24$

5. $9=3(x-11)$

6. $5(2x-4)=60$

7. $\frac{1}{4}(8x+20)=11$

8. $10=5(x-1)$

9. $2(2x-1)=22$

10. $3=2(x+1)$

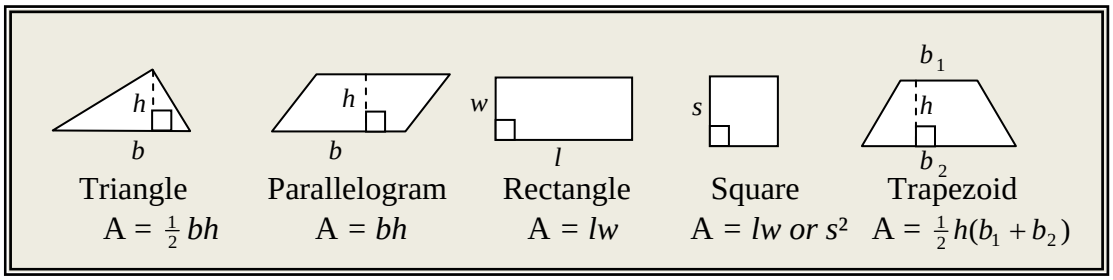
11. Jacob has kept a food journal of the last 14 days. He has eaten 200 calories less than his normal intake by not eating ice cream every night. He calculated that he has eaten 30,800 calories over the last 14 days.

a. The equation $14(x-200)=30800$ represents this situation. What does x represent in the equation?

b. Solve the equation and determine what Jacob's normal calorie intake was before he stopped eating ice cream.

Lesson 21C ~ The Coordinate Plane

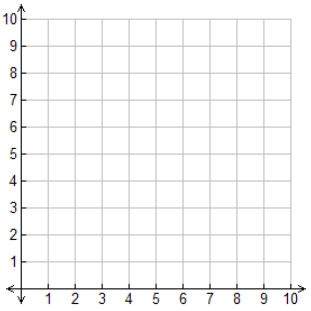
Name_____ Period_____ Date_____



Triangle	Parallelogram	Rectangle	Square	Trapezoid
$A = \frac{1}{2}bh$	$A = bh$	$A = lw$	$A = lw$ or s^2	$A = \frac{1}{2}h(b_1 + b_2)$

Plot each set of points. Connect the points in order. Connect the first point to the last point. Name each shape and find the area of each figure using the formulas above.

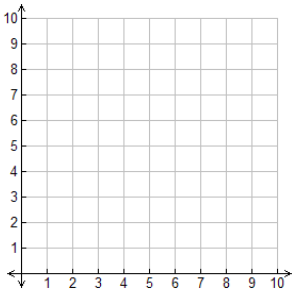
1. (2, 3), (2, 8), (7, 8) and (7, 3)



Name: _____

Area: _____

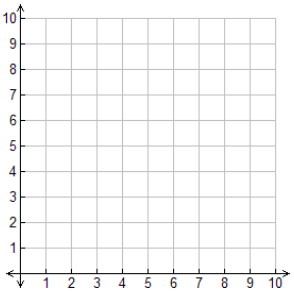
2. (9, 8), (9, 1), (3, 1) and (3, 8)



Name: _____

Area: _____

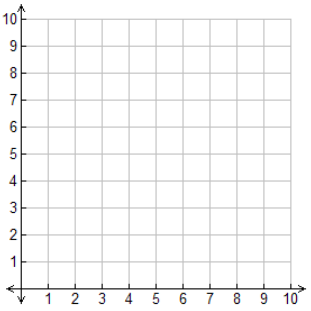
3. (3, 2), (9, 2) and (9, 6)



Name: _____

Area: _____

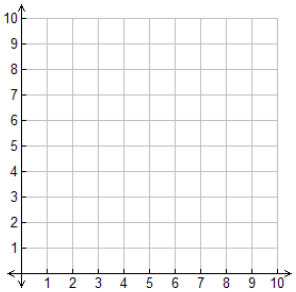
4. (1, 4), (8, 4), (10, 6) and (3, 6)



Name: _____

Area: _____

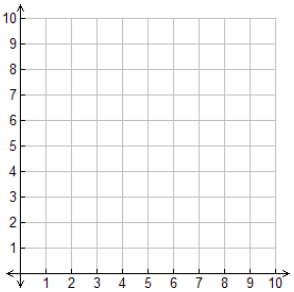
5. (4, 10), (7, 10), (10, 6) and (3, 6)



Name: _____

Area: _____

6. (2, 5), (8, 5) and (5, 9)



Name: _____

Area: _____

7. List the ordered pairs for four points that would create a trapezoid. What is the area of the trapezoid created by these points? (Do not use the trapezoid in the exercises above.)

Lesson 22C ~ Input-Output Tables

Name_____ Period_____ Date_____

Complete the input-output tables for each equation.

1. $y = 3x + 4$

x	$y = 3x + 4$	y
0		
1		
2		
3		
4		

2. $y = \frac{1}{2}x - 1$

x	$y = \frac{1}{2}x - 1$	y
2		
4		
6		
8		
9		

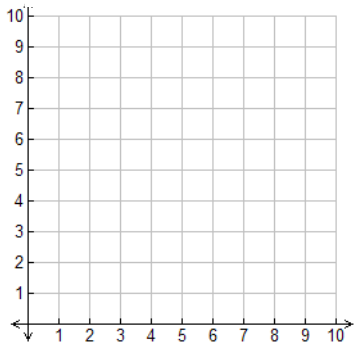
3. $y = 15 - 2x$

x	$y = 15 - 2x$	y
0		
1		
2		
3		
4		

Fill in each table with the missing values that satisfy the equation. Graph the ordered pairs on the coordinate planes below.

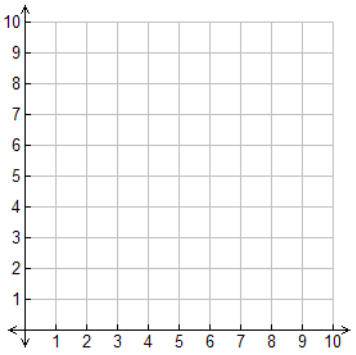
4. $y = 1 + x$

x	y
	1
2	
	5
7	
	10



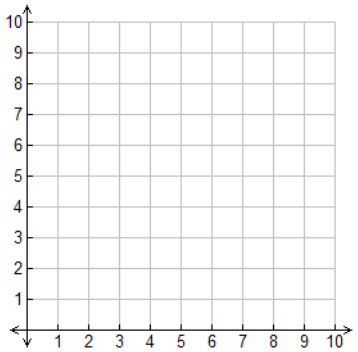
5. $y = 2x + 3$

x	y
0	
	5
1.5	
	9
3.5	



6. $y = \frac{1}{2}x$

x	y
2	
4	
	3
8	
	4.5



7. You should notice something similar about the sets of ordered pairs when you plot the points in Exercises 4 through 6. What is similar about the graphs?

Lesson 23C ~ Writing Function Rules

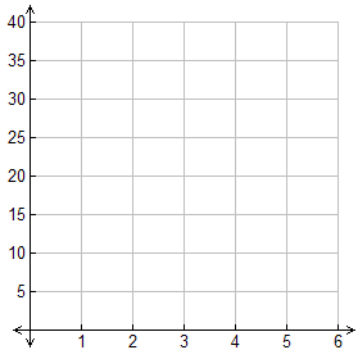
Name_____ Period_____ Date_____

1. Shasta owns 10 baseball cards. Each week she plans to add 6 cards to her collection.

a. Create an input-output table that shows the number of cards in her collection over the first five weeks.

Weeks x	*Cards* y
0	
1	
2	
3	
4	
5	

b. Plot the points that show the number of cards in Shasta's collection over the first five weeks. Label both axes.



c. Write a function rule that describes the total number of baseball cards Shasta will own based on the number of weeks she has been collecting cards.

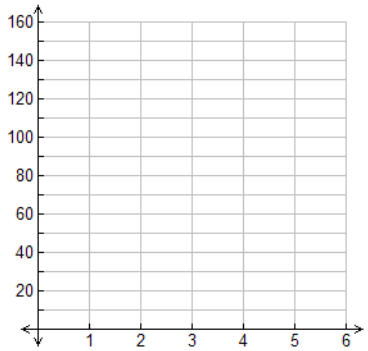
d. Determine how many weeks it will take before Shasta has 76 cards in her collection.

2. Before Henry went on a diet, he weighed 160 pounds. Each month he diets, he loses 5 pounds.

a. Create an input-output table that shows Henry's weight over the first five months.

Months x	*Weight* y
0	
1	
2	
3	
4	
5	

b. Create a scatter plot that shows Henry's weight over the first five months. Label both axes.



c. Write a function rule that describes Henry's weight based on the number of months he has been dieting.

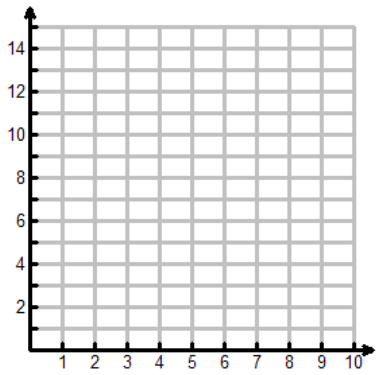
d. Henry's doctor told him a good weight for his age is 120 pounds. How many months will it take him to reach this weight?

Lesson 24C ~ Graphing Linear Functions

Name_____ Period_____ Date_____

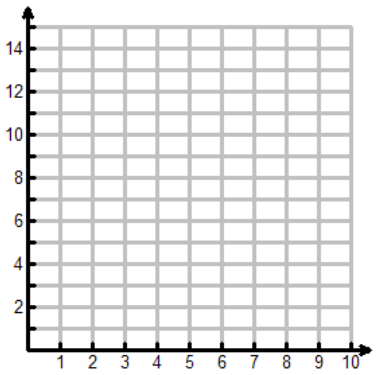
Two points on a line are given. Graph the points and use the graph to help write the linear function that goes through the two points.

1. (3, 7) and (5, 11)



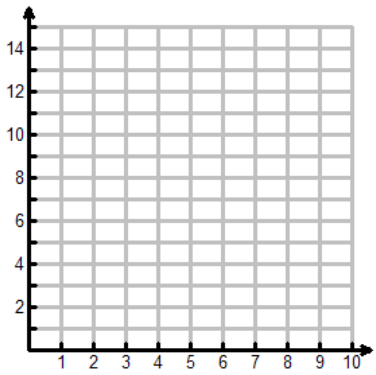
Equation: $y =$

2. (4, 6) and (9, 11)



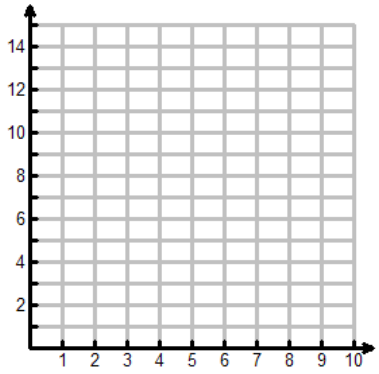
Equation: $y =$

3. (2, 7) and (8, 10)



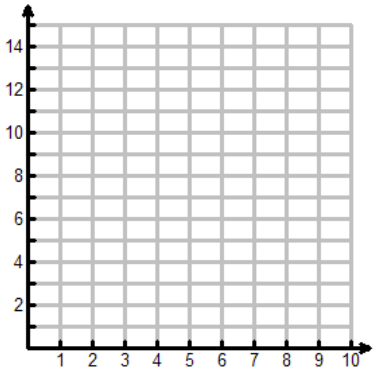
Equation: $y =$

4. (1, 4) and (4, 13)



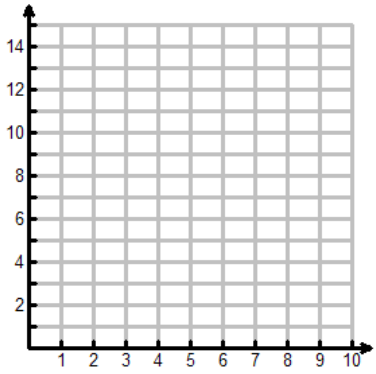
Equation: $y =$

5. (4, 3) and (6, 0)



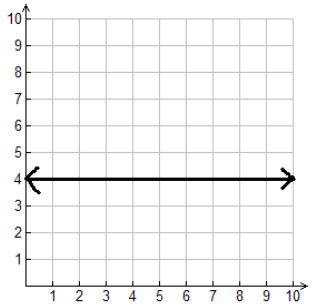
Equation: $y =$

6. (1, 2.5) and (4, 10)

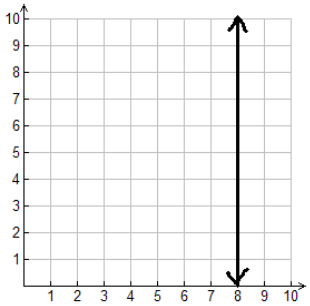


Equation: $y =$

7. Some graphs form horizontal or vertical lines. Write the equation for each line.



Equation: $y =$



Equation: $x =$

Lesson 25C ~ Patterns and Functions

Name_____ Period_____ Date_____

Find the missing values in each sequence. Identify the start value (or first term) and the operation that must be performed to arrive at the next term.

1. 14, 17, 20, _____, 26, _____, _____ Start Value: _____

Operation: _____

2. 61, 55, _____, 43, 37, _____, 25, _____ Start Value: _____

Operation: _____

3. 7, 12, 17, _____, 27, _____, _____ Start Value: _____

Operation: _____

4. 2, _____, 16, _____, 30, 37, _____, _____ Start Value: _____

Operation: _____

5. 0.5, 0.9, _____, _____, _____, 2.5, _____ Start Value: _____

Operation: _____

6. _____, _____, 44, 66, _____, _____, 132 Start Value: _____

Operation: _____

For each sequence below, describe the start value and the operation performed to get to the next term. Give the 8th term in the sequence.

7. 3, 10, 17, 24, …

Start Value: _____

Operation: _____

8th Term: _____

8. 9.9, 9.2, 8.5, 7.8, …

Start Value: _____

Operation: _____

8th Term: _____

9. 8, 20, 32, 44, …

Start Value: _____

Operation: _____

8th Term: _____

10. 320, 303, 286, 269, …

Start Value: _____

Operation: _____

8th Term: _____

11. 80, 72, 64, 56, …

Start Value: _____

Operation: _____

8th Term: _____

12. $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$, 1, …

Start Value: _____

Operation: _____

8th Term: _____