# Algebra II Summer Review

# Welcome to Algebra II!

Often times over the summer it is easy to forget some of the things you have learned. Here at Calverton we like to send work home to be completed throughout the summer in order to help students start their next year off strong.

Please complete the attached worksheet throughout the summer and avoid completing them all in the week before school starts. Please make sure you show all your work along the way. This will count as your first grade and needs to be completed for the first day of school.

There is a video list to accompany the worksheets as well as a math help day for support in completing the required summer work.

Please email Mrs. Crissman acrissman@calvertonschool.org or Mr. Kerin wkerin@calvertonschool.org for any questions about the requirements.

Have a great summer!

Name:

Operations with Fractions

Solve each expression by hand. Simplify answers completely.

**Part A - Adding and Subtracting**

| | |
|---|---|
| 1) $\frac{6}{9} + \frac{1}{9}$ | 4) $\frac{7}{11} - \frac{4}{11}$ |
| 2) $\frac{2}{7} + \frac{1}{4}$ | 5) $\frac{2}{3} - \frac{1}{6}$ |
| 3) $\frac{4}{10} + \frac{4}{5}$ | 6) $\frac{4}{5} - \frac{2}{3}$ |

**Part C - Multiplying and Dividing**

| | |
|---|---|
| 11) $\frac{2}{4} \times \frac{7}{8}$ | 14) $\frac{2}{3} \div \frac{6}{7}$ |
| 12) $\frac{5}{7} \times \frac{1}{3}$ | 15) $\frac{5}{9} \div \frac{1}{2}$ |
| 13) $\frac{3}{8} \times 6$ | 16) $5 \div \frac{4}{6}$ |

Simplify each algebraic fraction.

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

2. $\frac{xy+y^2}{xy^2}$

3. $\frac{56y}{77xy}$

4. $\frac{9n}{12n}$

5. $\frac{100n}{200n^2}$

6. $\frac{5a^3}{35a^2}$

7. $\frac{15a^2n^2}{18a^2n^2}$

8. $\frac{42an^2}{49a^2n}$

Name:

Percent

Complete the table below by converting between fraction, decimal and percentage.

| Fraction | Decimal | Percent |
|---|---|---|
| $\frac{7}{10}$ | | |
| | 0.54 | |
| | | 38% |
| $\frac{43}{100}$ | | |
| | | 50% |
| $\frac{2}{7}$ | | |
| | 0.25 | |
| $\frac{4}{5}$ | | |
| | | 30% |
| $\frac{41}{74}$ | | |

Answer each question to find percent or percent change.

1. In a school election, Candidate A received 65% of the total votes. If there were 400 votes cast, how many votes did Candidate A receive?

2. During a sale, a pair of shoes is discounted by 20%. If the original price of the shoes is $80, what is the sales price?

3. A basketball team won 70% of their games in a season. If they played 40 games, how many games did they win?

4. A student scored 72% on a math test. If the test had 50 questions, how many questions did the student answer correctly?

5. The population of a town is 5,000 people. If 20% of the population are children, how many children are there in the town?

6. A fruit basket contains 80% apples and the rest are oranges. If there are 24 oranges in the basket, how many apples are there?

7. Last year, a student earned a score of 80 on their end of the year math test. This year, the students improved their score to 92. What is the percent increase in the student's score?

8. The price of a video game was originally $60. During a sale the price was reduced o $45. What was the percent decrease in the price of the game?

9. The population of a city was 10,000 people. Over the course of a year, the population increased to 12,000 people. What was the percent increase in the city's population?

10. The price of a concert ticket increased from $50 to $65. What was the percent increase in the ticket price?

11. The weigh of a watermelon decreased from 20 pounds to 16 pounds due to evaporation. What was the percent decrease in the watermelon's weight?

12. Last year, a store sold 500 units of a product. This year, they sold 450 units. What was the percent decrease in the number of units sold?

Name: _____ Date: _____ Pd: _____

# LAWS OF EXPONENTS: NEGATIVE EXPONENTS

Directions: Simplify each expression using the negative exponents rule.

| | |
|---|---|
| #1 $\left(\frac{1}{x}\right)^{-1}$ | #2 $x^{-1}$ |
| #3 $(4x)^{-3}$ | #4 $\frac{x^{-2}}{y^{-3}}$ |
| #5 $\frac{x^{-5}}{y^{6}}$ | #6 $2x^{-6}$ |
| #7 $\frac{(2x)^{-3}}{y^{3}}$ | #8 $\frac{x^{8}}{(3y)^{-2}}$ |

Name: _____ Date: _____ Pd: _____

# LAWS OF EXPONENTS: POWER RULE

Directions: Simplify each expression using the power rule.

| | |
|---|---|
| #1 $(x^5)^3$ | #2 $(x^2)^6$ |
| #3 $(x^4)^6$ | #4 $(2x^3)^4$ |
| #5 $(-10x^6)^2$ | #6 $(-8x^9)^2$ |
| #7 $((x-2)^5)^2$ | #8 $((x+9)^7)^5$ |

Name: _____ Date: _____ Pd: _____

# LAWS OF EXPONENTS: PRODUCT RULE

Directions: Simplify each expression using the power rule.

| | |
|---|---|
| #1 $x^2 \cdot x^6$ | #2 $x^3 \cdot x \cdot x^8$ |
| #3 $x^4 \cdot x^3 \cdot x^{10}$ | #4 $6x^2 \cdot 2x^5$ |
| #5 $3x^3 \cdot 4x^6$ | #6 $12x^4 \cdot 3x^2 \cdot x^2$ |
| #7 $-5x^5 \cdot 2x^{10} \cdot 3x^2$ | #8 $-2x^8 \cdot -4x^2 \cdot 3x^5$ |

Name: _____ Date: _____ Pd: _____

# LAWS OF EXPONENTS: QUOTIENT RULE

Directions: Simplify each expression using the power rule.

| | |
|---|---|
| #1 $\frac{x^8}{x^2}$ | #2 $\frac{x^{16}}{x^{12}}$ |
| #3 $\frac{x^{25}}{x^{14}}$ | #4 $\frac{8x^6}{2x^4}$ |
| #5 $\frac{-20x^{11}}{4x^6}$ | #6 $\frac{100x^{25}}{-25x^{10}}$ |
| #7 $\frac{36x^5}{4x}$ | #8 $\frac{18x^{21}}{6x^7}$ |

Name:

# Simplify Radicals

Simplify the radicals. No decimals.

1. $\sqrt{320}$
2. $\sqrt{162}$
3. $\sqrt{18}$
4. $\sqrt{432}$
5. $\sqrt{112}$
6. $\sqrt{8}$
7. $\sqrt{20}$
8. $\sqrt{108}$
9. $\sqrt{125}$
10. $\sqrt{63}$
11. $\sqrt{98}$
12. $\sqrt{28}$

Name:

Rationalizing the Denominator

| | |
|---|---|
| 1. $\frac{5}{\sqrt{15}}$ | 2. $\frac{\sqrt{18}}{\sqrt{12}}$ |
| 3. $\sqrt[3]{\frac{5}{3x}}$ | 4. $\frac{\sqrt{5x^4y}}{\sqrt{2x^2y^3}}$ |
| 5. $\frac{10}{\sqrt[3]{5x^2}}$ | 6. $\frac{3+\sqrt{5}}{\sqrt{5}}$ |
| 5. $\frac{10}{\sqrt[3]{5x^2}}$ | 6. $\frac{3+\sqrt{5}}{\sqrt{5}}$ |
| 7. $\frac{12}{\sqrt{5}-1}$ | 8. $\frac{5-\sqrt{2}}{2+\sqrt{2}}$ |

Name: _____ Period: _____ Date: _____

## Metric Review

1) What are the base metric units for:

   a. Distance _____

   b. Volume? _____

   c. Mass _____

2) What would be the appropriate metric unit for measuring a person's height? Explain.

3) What would be the appropriate metric unit for finding the distance from school to your house? Explain.

4) 25 ml = _____ kl

5) 0.003 cg = _____mg

6) 1.2 km = _____ cm

7) 3.14 L = _____ ml

8) 0.025 km = _____ m

9) 1230 mm = _____ m

10) 64.32 mm = _____ cm

11) 360 L = _____ cL

12) 0.6259 kL = _____ L

13) 2.44 mg = _____ g

14) 93 mg = _____ cg

15) 0.00245 g = _____mg

16) 335 L = _____ kL

17) 0.06 mm = _____ m

18) 92345 mg = _____ kg

19) 86.05 m = _____ mm

20) 332 km = _____ cm

21) 188 m = _____ km

22) 0.0366 cm = _____mm

23) 0.00027 km = _____ mm

24) 172.14 cL = _____ kL

25) $2.3 \times 10^3$ m = _____ km

# Converting Ordinary Numbers to Scientific Notation

Convert each number from ordinary number to scientific notation.

1. 69.96859 = _____
2. 188.221 = _____
3. 2,165.94 = _____
4. 71 = _____
5. 2,355.19 = _____
6. 0.05305 = _____
7. 593.85 = _____
8. 82,206.2 = _____
9. 0.1 = _____
10. 91.99 = _____
11. 450 = _____
12. 2,325,000 = _____
13. 940.7 = _____
14. 374.7 = _____
15. 4,600 = _____
16. 0.824 = _____

# Converting Scientific Notation to Ordinary Numbers

Convert each number from scientific notation to ordinary number.

1. $2.1 \times 10^{1} =$ _____

2. $8.01055 \times 10^{2} =$ _____

3. $1.53341 \times 10^{0} =$ _____

4. $3.226348 \times 10^{2} =$ _____

5. $8.22 \times 10^{-1} =$ _____

6. $8.8952 \times 10^{3} =$ _____

7. $5.95 \times 10^{1} =$ _____

8. $2.43 \times 10^{6} =$ _____

9. $7.57663 \times 10^{2} =$ _____

10. $1.03 \times 10^{1} =$ _____

11. $7.1 \times 10^{2} =$ _____

12. $7.7673 \times 10^{1} =$ _____

13. $5.708487 \times 10^{4} =$ _____

14. $9.81566 \times 10^{2} =$ _____

15. $3.99 \times 10^{-2} =$ _____

16. $6.83785 \times 10^{2} =$ _____

# Graphing and Analysis

We create scatterplots to help us discover relationships or associations between two quantitative variables. When creating a scatterplot to represent data, there certain aspects we need to consider such as labeling the axes, creating an appropriate scale and providing a title.

Labeling Axes:

When labeling axes we need to consider what variable will go on the x-axis and which will go on the y-axis. The variable on the x-axis is the input or independent variable. This is the variable we think may influence the output. Often this will be time. For example, as time passes we may expect that a ball drops further, the distance a person travels increases, etc. The variable on the y-axis is the output or dependent variable. This is the variable we believe may be influenced by the input.

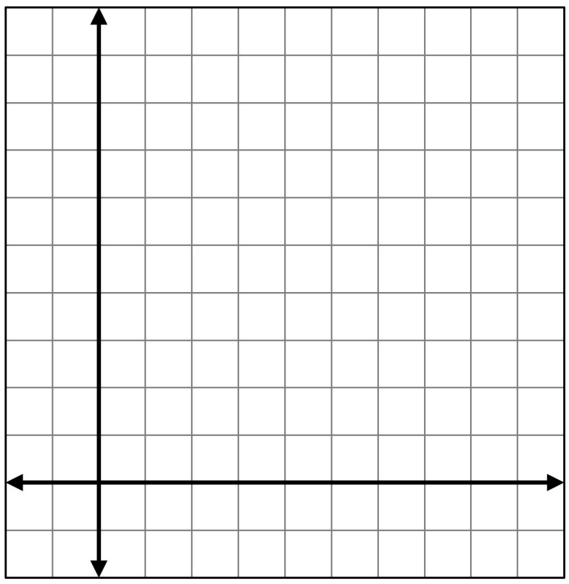
Consider the following situation: Sam is driving to school. His distance from at various times after he left is represented in the table below.

| Time (min) | 5 | 10 | 15 | 20 | 25 | 30 | 35 |
|---|---|---|---|---|---|---|---|
| Distance from home (km) | 3 | 8 | 10 | 15 | 21 | 24 | 30 |

Which variable should be placed on the x-axis and which should be placed on the y-axis? Label the axes on the graph below.

Creating an Appropriate Scale:

After we determine which variable goes on which axis, we need to determine an appropriate scale. Sometimes it makes sense to go up by units of 1, but often times the data will not fit if we automatically increase by 1. Consider how many gridlines there are to help make the decision. For instance, here we see there are 10 gridlines to the right of the x-axis. If we need to fit times up to 35 minutes, it may make sense to let each gridline represent 5 minutes. Determine an appropriate scale for each axis and write it on the graph. Then plot the data.



Provide a Title:

Be sure to title the graph in a way that represents the information that is being displayed.

Line of Best Fit

After plotting data, we may want to create something called a line of best fit or trendline. This is a line that generally represents the data. You can using graphing software to determine an exact line of best fit or you can approximate what it may be by hand.

If sketching in a line of best fit by eye, try to draw a line that you feel best represents all of the data present. Approximately the same number of data points should be on both sides of the line.

Draw the line of best fit in on the graph on the previous page.

Follow-up Questions:

1. Using your line of best fit, approximately how many miles has Sam traveled after 17 minutes?

2. In this instance, what does the y-intercept (where your line of best fit crosses y-axis) represent?

3. What is happening to the distance, in general, as the time since Sam left home increases?

Name:

Data

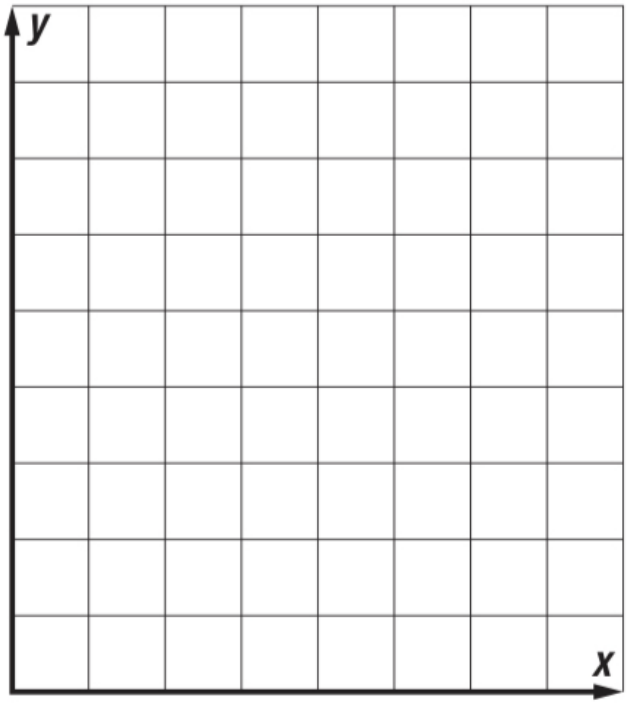
1. The table shows the fat grams and calories for several snack foods. Use the data below to answer the following questions.

   a. Calculate the mean, median, and mode of the Fat grams per serving.

   b. Calculate the mean, median, and mode of the calories per serving.

| Food | Fat grams per serving | Calories per serving |
|---|---|---|
| doughnut | 13 | 306 |
| corn chips | 13 | 200 |
| pudding | 3 | 150 |
| cake | 13 | 230 |
| snack crackers | 6 | 140 |
| ice cream (light) | 5 | 130 |
| yogurt | 2 | 70 |
| cheese pizza | 18 | 410 |

   c. Make a scatter plot of the data. Choose and label an appropriate scale. Label the axis and scatter plot. Plot and label the mean point.



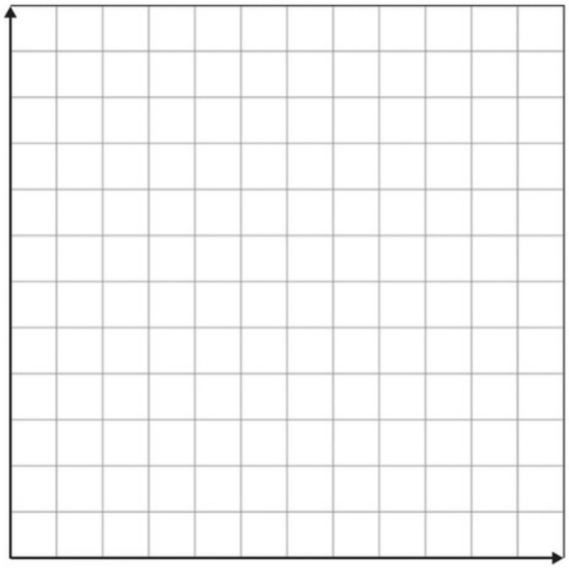
2. The table shows the mean salary for women who had completed a college degree for the years 1989-1998. Use the data below to answer the following questions.

a. Calculate the mean, median, and mode of the salary.

| Year | Salary in Thousands of Dollars |
|---|---|
| 1989 | 42 |
| 1990 | 43 |
| 1991 | 45 |
| 1992 | 46 |
| 1993 | 48 |
| 1994 | 49 |
| 1995 | 50 |
| 1996 | 51 |
| 1997 | 53 |
| 1998 | 57 |

**Source:** *Time Almanac*

b. Make a scatter plot of the data. Choose and label an appropriate scale. Label the axis and scatter plot. Plot and label the mean point.



c. Does there appear to be a relationship between year and salary?

d. Based on the graph, predict what the median salary was for the year 2000.

Name _____ Date __/__/__ Period ____

# SLOPE-INTERCEPT FORM OF A LINE

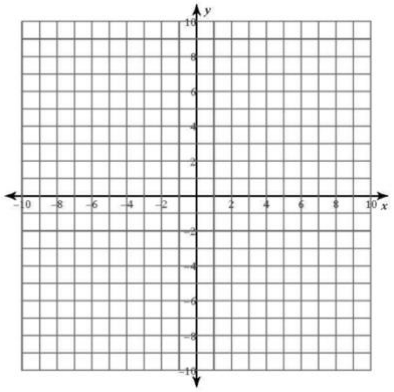
**Directions:** Put each equation into slope-intercept form (y=mx+b).

| | |
|---|---|
| 1. $2y - 4x = 8$ | 2. $-y = 3x - 1$ |
| 3. $y + 7 = 3x$ | 4. $-2x + 3y = 3$ |
| 5. $4y + 48 = 2x$ | 6. $4y + 12x = 12$ |
| 7. $2y = 3x + 20$ | 8. $5y + 10 = x$ |
| 9. $y + x = 8$ | 10. $7y = 21x + 28$ |

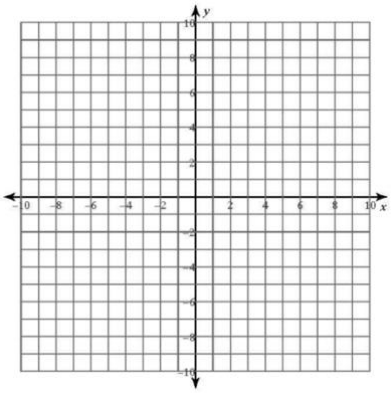
Name:

# Graphing Linear Equations

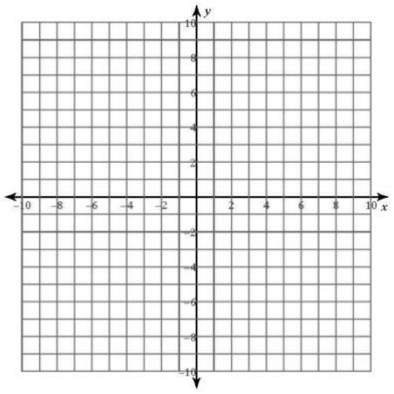
1. $y = -\frac{1}{4}x - 3$



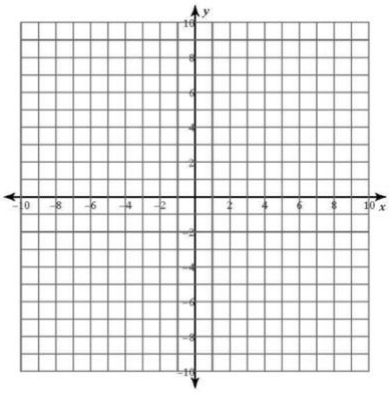
2. $y = 2x - 2$



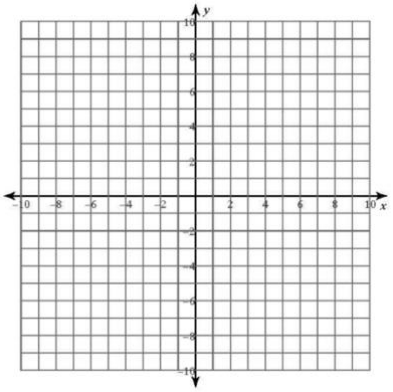
3. $y = -4x + 3$



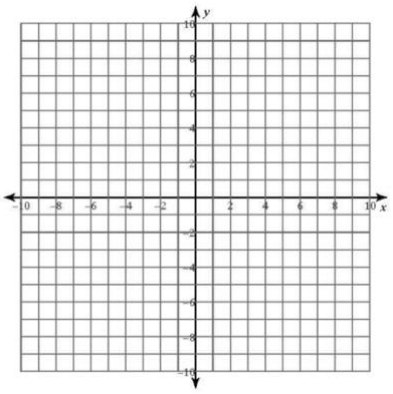
4. $y = \frac{4}{3}x - 1$



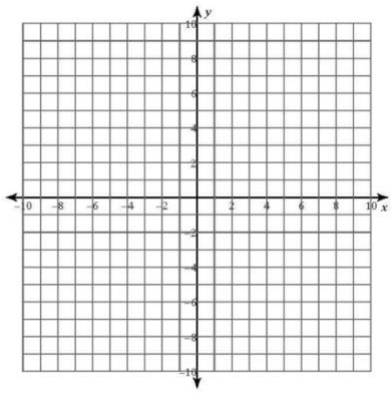
5. $y = 3x - 3$



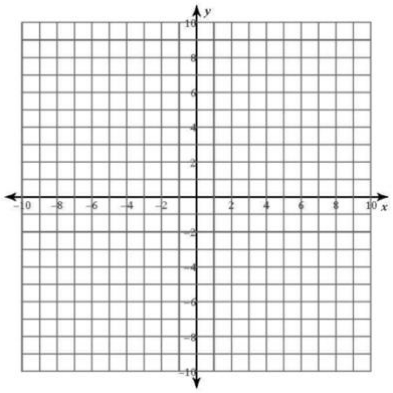
6. $y = -2x + 1$



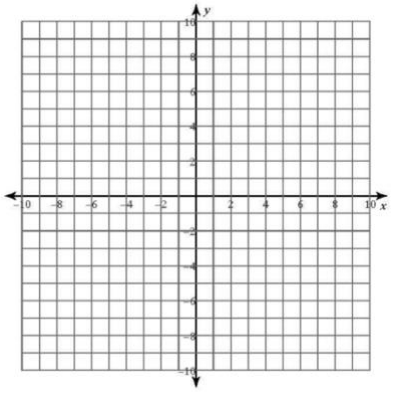
7. $y = -\frac{7}{3}x + 3$



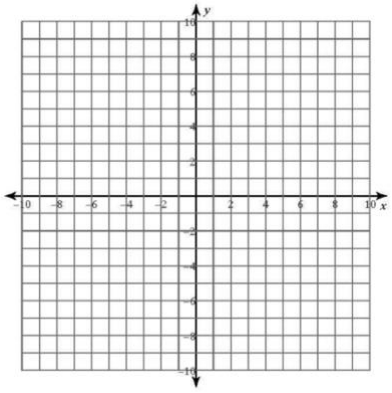
8. $y = -5$



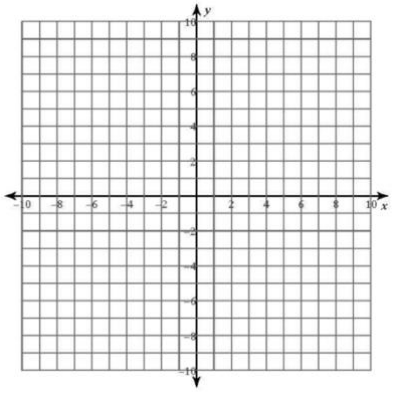
9. $y = 6$



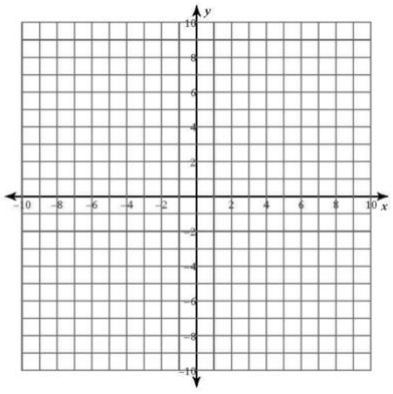
10. $y = 3x + 3$



11. $y = -2x + 5$



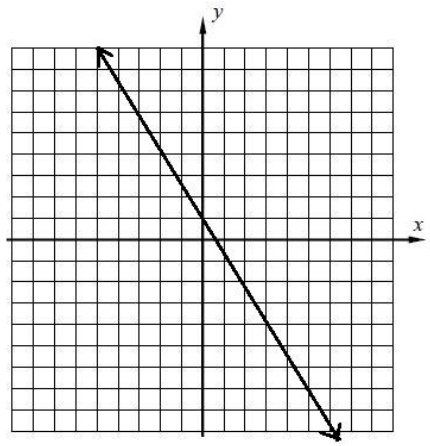
12. $y = \frac{6}{5}x - 3$



Name:_____

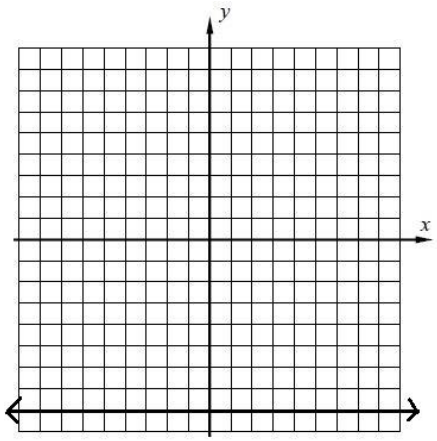
Given the graph, write an equation modeling the line in slope-intercept form i.e., $y = mx + b$

1.)



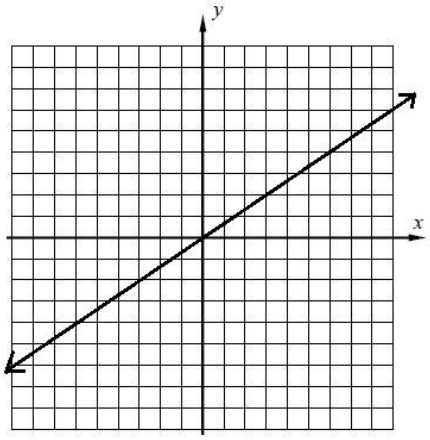

Equation:_____

2.)



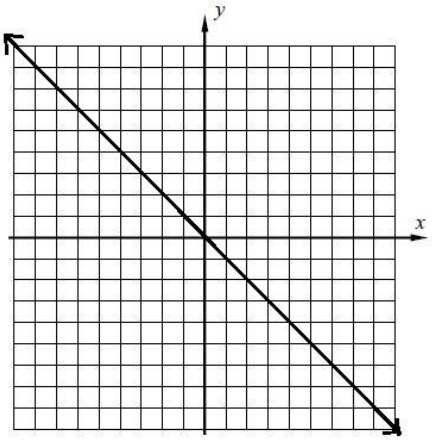

Equation:_____

3.)



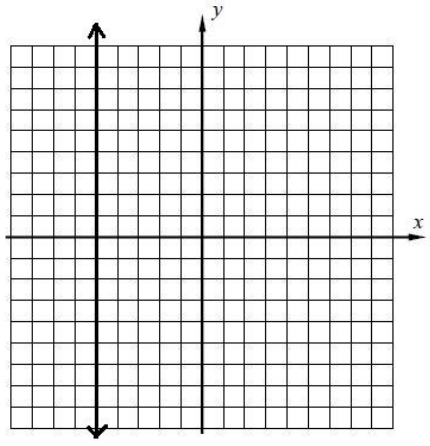

Equation:_____

4.)



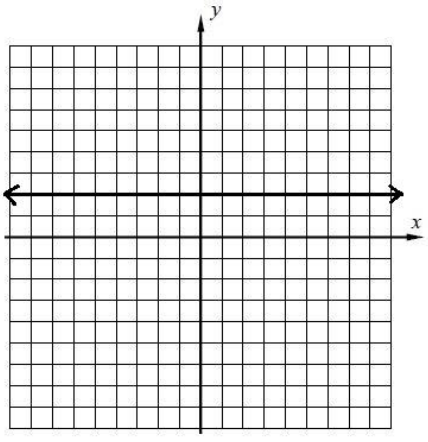

Equation:_____

5.)



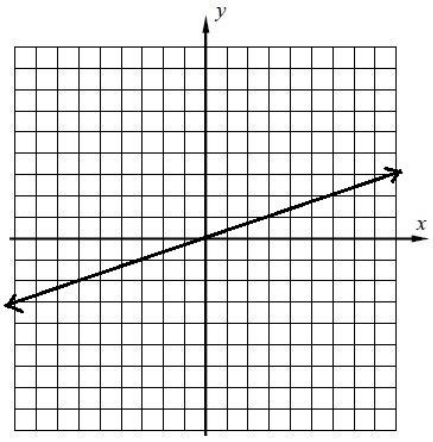

Equation:_____

6.)



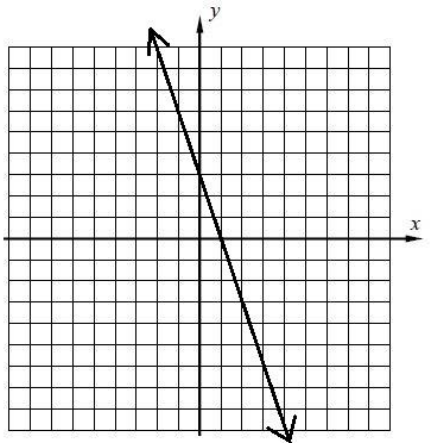

Equation:_____

7.)



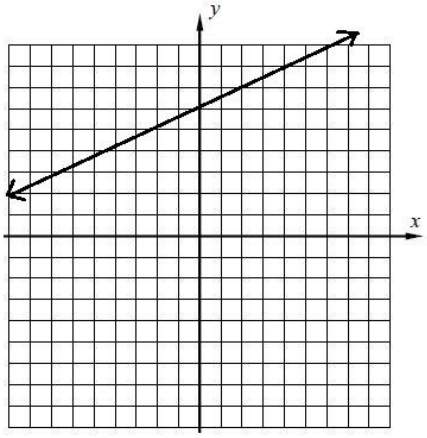

Equation:_____

8.)



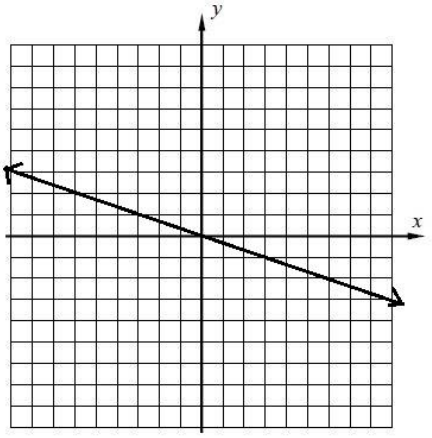

Equation:_____

9.)



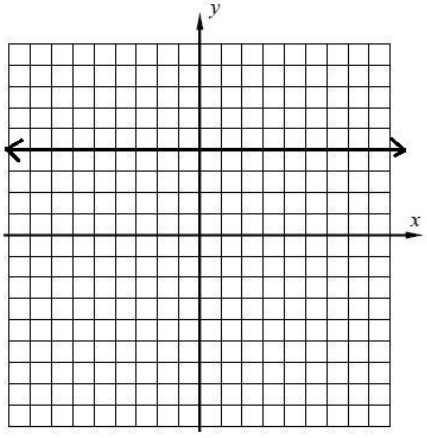

Equation:_____

10.)




Equation:_____

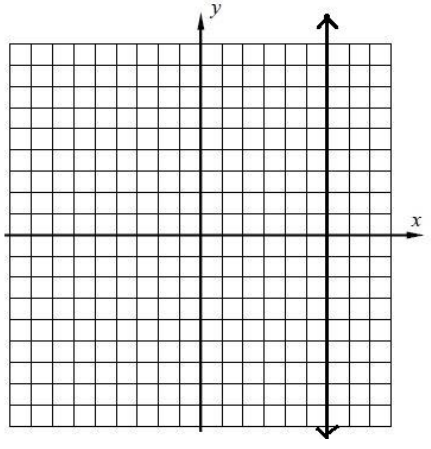
11.)




Equation:_____

Slope:_____ y-intercept:_____

12.)




Equation:_____

Slope:_____

**Rewrite each formula or equation by solving for the indicated variable.**

| | |
|---|---|
| The Formula for Voltage in an electric circuit is V=IR where I is current and R is resistance. Solve for the resistance R.<br><br>$V=IR$ | The formula for Distance traveled at an average rate R over Time T is d=rt Solve for time t.<br><br>$d=rt$ |
| If r-c=p solve for r in terms of c and p.<br><br>$r-c=p$ | If r-c=p solve for c in terms of r and p. (be careful on this one :-) )<br><br>$r-c=p$ |
| The formula for simple interest is I = Prt where I is interest, P is principal, r is rate and t is time. Solve for time t.<br><br>$I=Prt$ | Einstein's famous equation is $e=mc^2$ where $e$ is energy, m is mass and c is the speed of light. Solve for the speed of light c.<br><br>$e=mc^2$ |

The Area of a Triangle is $A = \frac{bh}{2}$ where A is area b is the base of the triangle and h is its height. Solve for the height of a triangle h.

$$A = \frac{bh}{2}$$

If $g = \frac{1}{6}(w + 40)$ solve for w in terms of g.

$$g = \frac{1}{6}(w + 40)$$

The formula for the perimeter of a rectangle is P=2l+2w, where P is the perimeter, l is the length and w is width. Solve for l.

P=2l+2w

The formula to convert temperature from Fahrenheit to Celcius is. $\frac{5}{9}(F - 32) = C$. What is the formula to convert Celcius to Farenheit? (Solve for F)

$$\frac{5}{9}(F - 32) = C$$

If $A = \frac{1}{2}\pi w^2 + 2lw$ solve for $l$.

$$A = \frac{1}{2}\pi w^2 + 2lw$$

Isaac Newton's formula for Gravity is $F = G\frac{m_1 m_2}{r^2}$ Where F is the force due to gravity, between two masses ($m_1$ and $m_2$), which are a distance r apart; G is the gravitational constant. Solve for $m_1$ (This one is hard)

$$F = G\frac{m_1 m_2}{r^2}$$

Name:

# Rearrange Equations

Rearrange the equations to solve for the given variable. Show all steps.

1. The formula for distance is d =rt
    a. Solve for t

    b. With the formula you created in part a:
    Find the time it took for Veronica to run 8 miles at a rate of 15 miles per hour.

2. The formula for perimeter of a rectangle is  = 2L +2W
    a. Solve for L

    b. With the formula you created in part a:
    Find the length of a rectangle if the perimeter is 32 inches and the width is 8 inches

3. The formula for converting temperature is F = C + 32
    a. Solve for C

    b. With the formula you created in part a:
    If it is 84˚F at Laguna Beach, what is Laguna Beach's temperature in Celsius?

Name:

Solving Expressions and Equations

Solve the following expressions. Show all work.

1. Solve for F given: $F = \frac{Gm_1m_2}{r^2}$

   G= 6.67 x $10^{-11}$ $\frac{Nm^2}{kg^2}$
   $m_1$= 43kg
   $m_2$ = 35kg
   r= 9.1 m

2. Solve for s given: s= $\frac{5n}{2p^2}$

   n = 12.7
   p = 5.2

3. Solve for T given: $T = 2\pi\sqrt{\frac{l}{g}}$

   l = .65 m
   g = 9.8 $m/s^2$

4. Solve for E given: $E=mc^2$
   m =22.3kg
   c = 3 x $10^8$ $ms^{-1}$

5. Solve for d given: $d = \frac{1}{2}at^2$

   a = - 9.81 $m/s^2$
   t = 12 sec

6. Solve for z given: $z = \frac{2x^2}{y}$

   x = 6
   y = 15

7. Solve for $a_c$ given: $a_c = \frac{v^2}{r}$

   v = 31.5 m/s
   r = 167 m

Solve for x.

8. $x^2 = 44$

9. $30 = \frac{x^2 - 12}{2}$

10. $\frac{5}{x^2} = 20$

11. $\sqrt{x} = 5.7$

12. $\sqrt{x + 4} = 3$

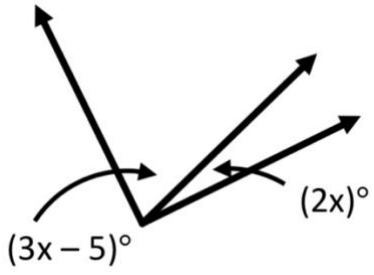
13. $3 = \frac{\sqrt{x}}{12}$

Name:

Solving equations

| | |
|---|---|
| $3x + 4 = x + 7$ | $-(x - 10) = 7$ |
| $4(2x - 3) = 3 + 8x - 11$ | $\frac{2p + 10}{2} = -2$ |
| $\frac{3m + 4}{5} = 5$ | $5(m - 1) = -2 + 9m + 5$ |
| $5a - 12 = 9a + 12$ | $7n + 25 = -2(1 - 3n)$ |

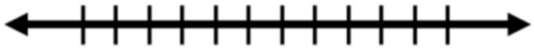
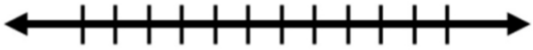
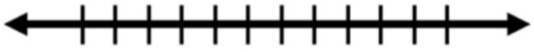
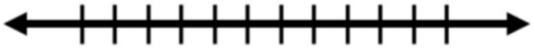
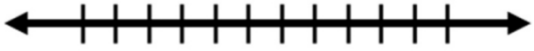
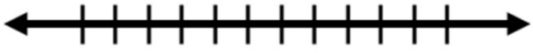
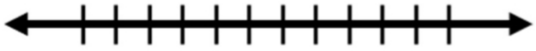
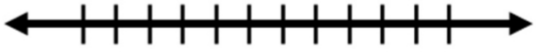
9. The two angles shown below form a right angle. Write and solve an equation to find the value of x.



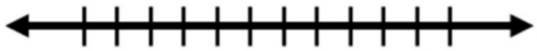
Name:

Inequalities

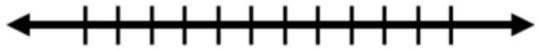
Solve and graph each of the following inequalities.

| | |
|---|---|
| 1. $2 + 8m + 2m \geq -8$  | 2. $5v + 3 + 4v \geq 21$  |
| 3. $-24 \geq 7b + 5b$  | 4. $8 < 1 - 6k + 1$  |
| 5. $6 \leq r + 2 + 4$  | 6. $7 \leq -n - 6n$  |
| 7. $-108 < -6(2 + 2p)$  | 8. $264 \leq 8(3 - 7x) - 4x$  |

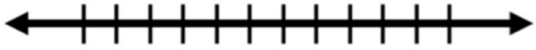
9. $8(x-6) \leq -104$



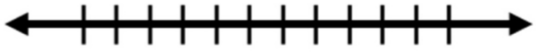
10. $-84 \leq 4+2(5+7x)$



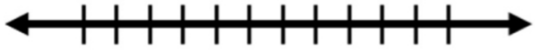
11. $5+7(7+8p) \geq -292$



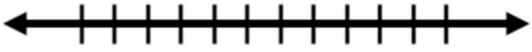
12. $8+6(1+5n) > 254$



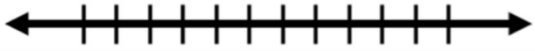
13. $-5(-6n+1)+4(n-1) < -9$



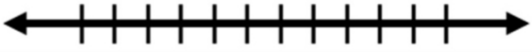
14. $2(x+3)-5(5+4x) \leq 53$



15. $-5(1-k)-7(-6-8k) \leq -24$



16. $2(v+6)+5(2v-7) > 25$



Name:

# Factoring

Identify the greatest common factor and then factor it out of each of the polynomials below.

1. $x^2 - x$

2. $2x^2 + 6x$

3. $3x^2 - 3x - 6$

4. $4x^2 - 8x - 12$

5. $2x^4 - 10x^3 - 12x^2 + 36x$

6. $2x^6 - 8x^5 - 2x^4 + 36x^2$

Use distributive property to expand the expressions below.

7. $4(3x + 2)$

8. $3(7y - 1)$

9. $5(3p + 4r)$

10. $10(10e + 7g)$

11. $3a(2b + 5c)$

12. $n(6r + t)$

13. $9h(6a + 7c)$

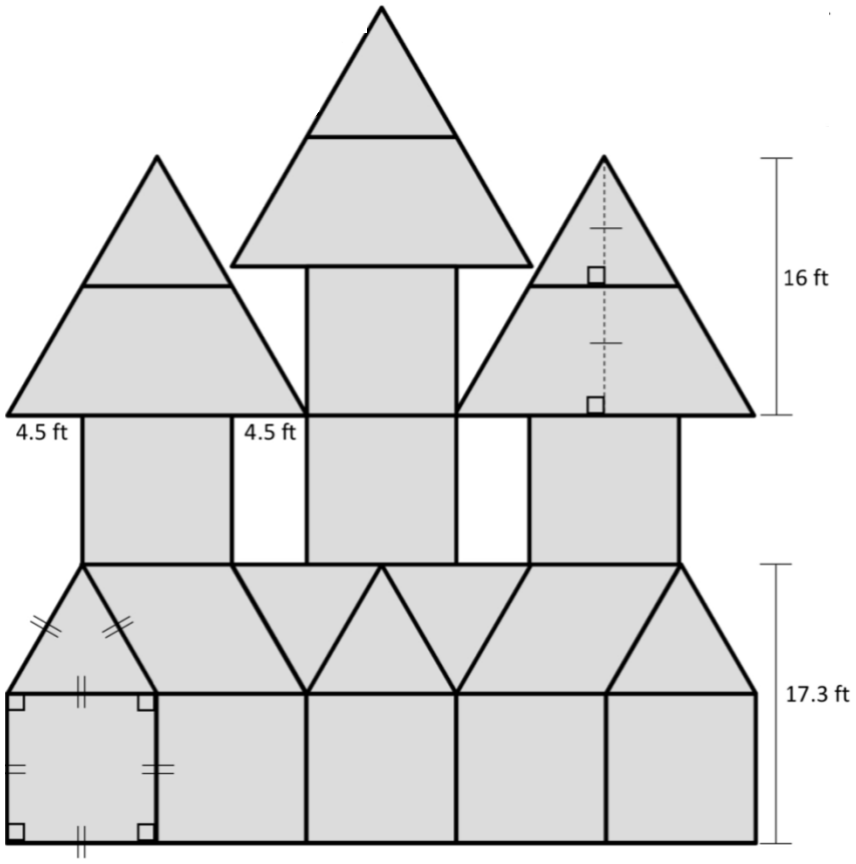
Factor each quadratic and then multiply it back out in order to check your answer.

| Factor | Multiply (expand) to check your answer |
|---|---|
| $x^2 + 4x + 3$ | |
| $x^2 + 7x + 12$ | |
| $x^2 + 17x + 70$ | |
| $x^2 + 6x + 9$ | |
| $x^2 - 5x + 6$ | |
| $x^2 + 2x - 8$ | |
| $x^2 - 9x + 8$ | |

Name:

All the squares, triangles, parallelograms, and trapezoids are congruent.

Solve for the area of the castle. Use the boxes below to solve for individual shapes. Round to the thousandths place.




## Area of a square:

A = _____ $ft^2$

## Area of a triangle:

A = _____ $ft^2$

## Area of a trapezoid:

A = _____ $ft^2$

## Area of a parallelogram:

A = _____ $ft^2$

## Area of the Sandcastle:

How many of the same figure?

$A_{square}$ = _____ $ft^2$ x ___ = _____ $ft^2$

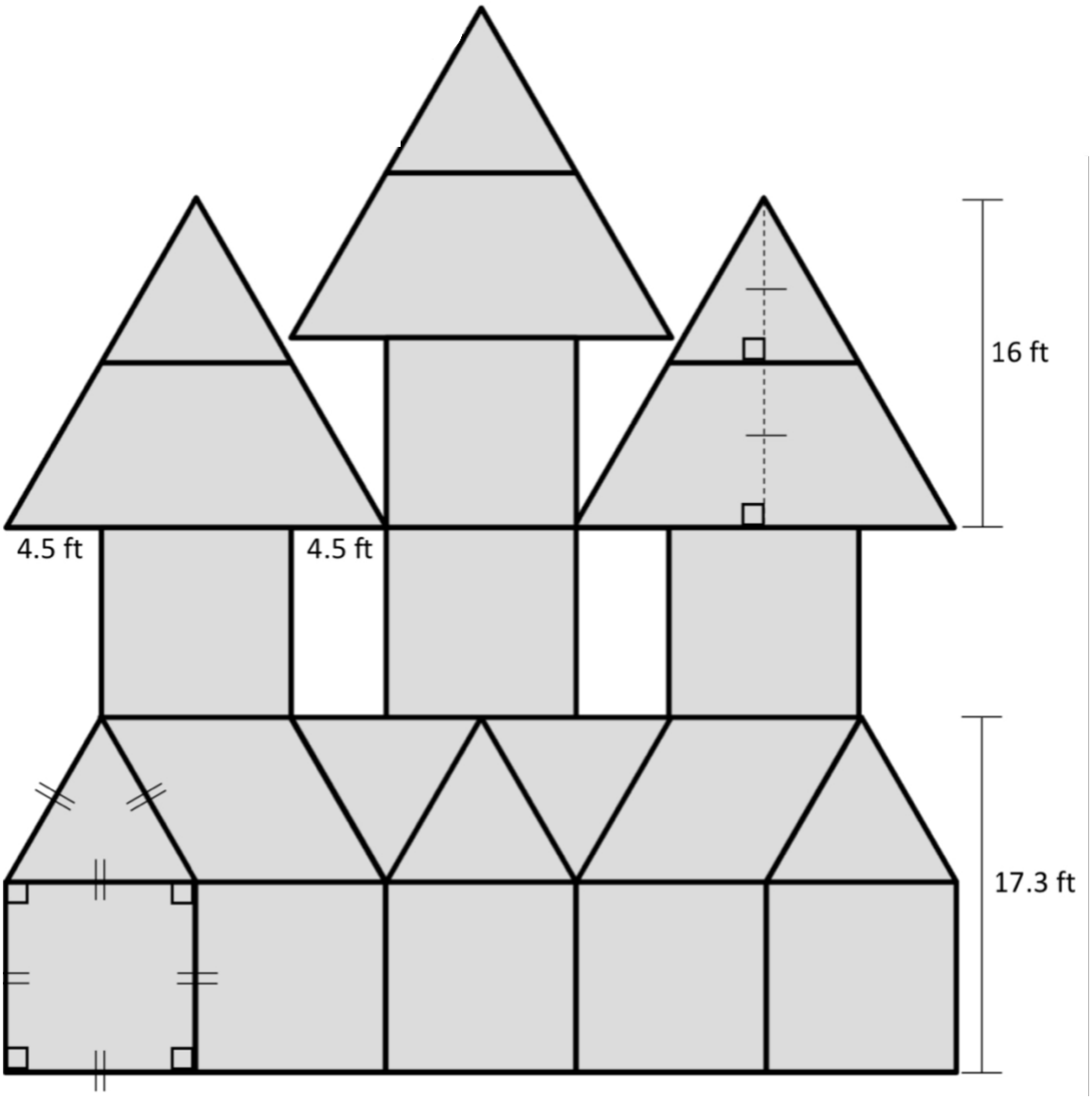
$A_{triangle}$ = _____ $ft^2$ x ___ = _____ $ft^2$

$A_{trapezoid}$ = _____ $ft^2$ x ___ = _____ $ft^2$

$A_{parallelogram}$ = _____ $ft^2$ x ___ = _____ $ft^2$

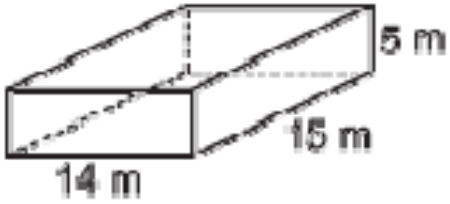
$A_{sandcastle}$ = _____ $ft^2$

Solve for the perimeter of the castle. Show all work with clear labels. Write the lengths of each segment on the castle.



# Volume Practice

1.

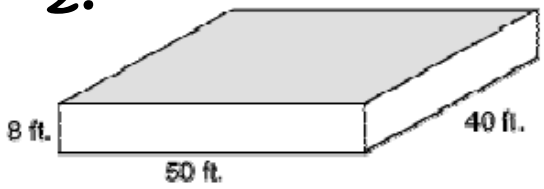



What is the formula?

_____

V = _____

2.

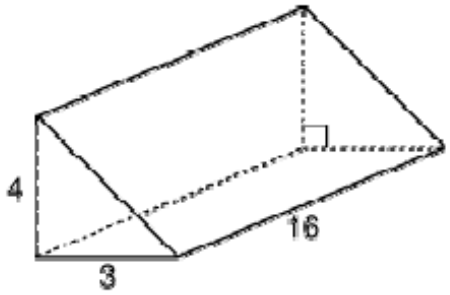



What is the formula?

_____

V = _____

3.

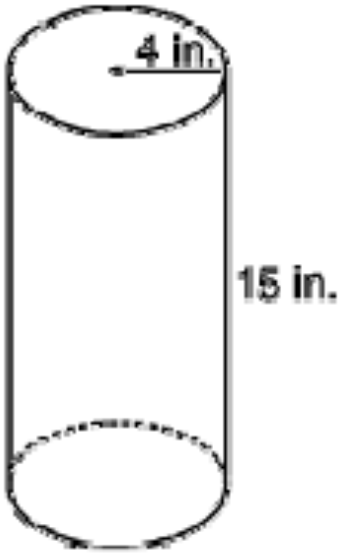



What is the formula?

_____

V = _____

4.

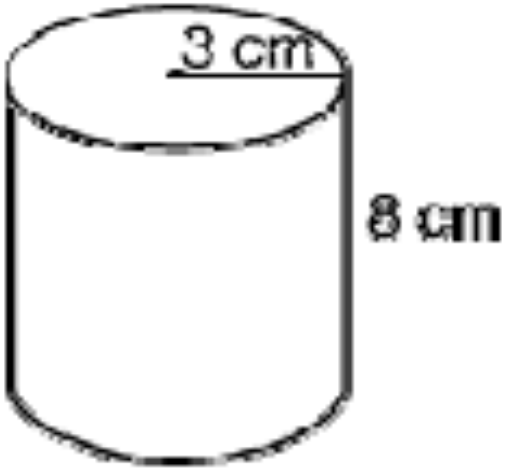



What is the formula?

_____

V = _____

5.




What is the formula?

_____

V = _____

Rising 10th Grade Mathematics Video List

Operations with fractions
a. https://www.youtube.com/watch?v=PXC74Tm7yBY

Simplify Algebraic Fractions
a. https://www.youtube.com/watch?v=WSQh4o3yu4I

Percent, Ratio, and Percent Change
a. https://youtu.be/MkpbtCRwcCE
b. https://www.youtube.com/watch?v=CT6IqIb7urs
c. https://www.youtube.com/watch?v=5nZEUpZX_P0

Exponent Rules
a. https://www.youtube.com/watch?v=LkhPRz7Hocg
b. https://www.youtube.com/watch?v=b4mSqcJND3I

Simplify Radicals
a. https://www.youtube.com/watch?v=2vWzyxsVrbM
b. https://www.youtube.com/watch?v=G3ucF7dMXY4

Rationalizing Denominators
a. https://www.youtube.com/watch?v=TkigJgKmIjc
b. https://www.youtube.com/watch?v=gY5TvlHg4Vk
c. https://www.youtube.com/watch?v=5j8a75aHaSEA

Metric Conversion
a. https://www.youtube.com/watch?v=uHaKyNplino

Scientific Notation
a. https://www.youtube.com/watch?v=ktaD_Qq2f0I
b. https://www.youtube.com/watch?v=PN93dIrSt7o

Graphing Analysis and Data Analysis
a. https://www.youtube.com/watch?v=B1HEzNTGeZ4
b. https://www.youtube.com/watch?v=NcgRa0uotXs
c. https://www.youtube.com/watch?v=8ODFBfEIX_k

Slope-Intercept
a. https://www.youtube.com/watch?v=8kkfxJ_tIKI

Graphing Linear Equation
a. https://www.youtube.com/watch?v=ruTcNElXdzQ

Write Equations form Graph
a. https://www.youtube.com/watch?v=qPJzMboAjI8

Rewrite equation for indicated variable
a. https://www.youtube.com/watch?v=5xcMQlshSJM

b. https://www.youtube.com/watch?v=EbzHG1mdj54

Solving Expressions and Equations
a. https://www.youtube.com/watch?v=5lzsxE-ykRY
b. https://www.youtube.com/watch?v=XDp_tExqS5c

Solving Linear Equations
a. https://www.youtube.com/watch?v=oIVpjrD4YvQ
b. https://www.youtube.com/watch?v=leNCHdO5Lec
c. https://www.youtube.com/watch?v=76E9K3JzjDM

Solve Inequalities on a Number Line
a. https://www.youtube.com/watch?v=S_GxAF6xV8Q

Factoring
a. https://www.youtube.com/watch?v=ynefQgfxZBs
b. https://www.youtube.com/watch?v=54lHz07GSIA
c. https://youtu.be/D3a8NnpQ2vU

Point-Slope Form
a. https://www.youtube.com/watch?v=ri3WivGI75Y
b. https://www.youtube.com/watch?v=SemcMTLjSiw

Circumference and Area of Circle (do not use 3.14, please use π button on your calculator)
a. https://www.youtube.com/watch?v=JC2kRM3jTOo
b. https://www.youtube.com/watch?v=_E0C5ECDS0U

Perimeter and Area of Parallelograms, Triangles, Trapezoids
a. https://www.youtube.com/watch?v=AAY1bsazcgM
b. https://www.youtube.com/watch?v=lsx1W2zuwHM

Volume of Prisms and Cylinders
a. https://www.youtube.com/watch?v=e7qgvHbdBuw
b. https://www.youtube.com/watch?v=PgxIad4c1ZI