

Name: _____ HR: _____ Teacher: _____ Date: _____

Directions: Please answer the following questions to the best of your ability. Lose this and you will visit the doctor!

1) The function tables below follow different function rules. Complete the tables by filling in the missing two terms.

X	Y
1	4
2	8
3	12
4	16
5	
6	

Rule: _____

X	Y
1	6
2	7
3	8
4	9
5	
6	

Rule: _____

X	Y
-2	5
-1	1
0	1
1	2
2	5
3	

Rule: _____

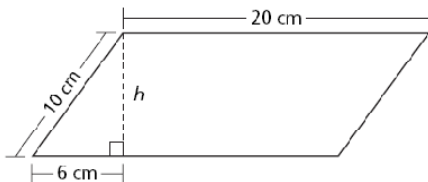
X	Y
0	4
1	7
2	10
3	13
4	
5	

Rule: _____

X	Y
0	0
1	-8
2	-16
3	-24
5	
10	

Rule: _____

2) The parallelogram shown below has sides with lengths of 10 centimeters and 20 centimeters. Calculate the height, in centimeters, of the parallelogram. Please show all of your work.



3) What is the value of $2^3 \times 5^2$?	4) What is the value of the expression $3(4 + 3) + 5^2 \times 10$?
5) Simplify: $(3xy + 5a - 6) + (10xy - 3a + 4)$	6) Solve for x. $4(x + 10) + 3x = 5x - 16$
7) Simplify: $(4x + 3) - (2x - 6)$	8) What is the value of the expression $4a + 6b$, if $a = 6$ and $b = 3$?
9) Write a mathematical expression that is equal to the expression “six less than four times a number”.	10) Solve for x: $7x - 3 = 18$
11) Solve for x: $2x + 3 = 3x + 5$	12) Simplify the expression: $4x^2b + 12x^2b$.

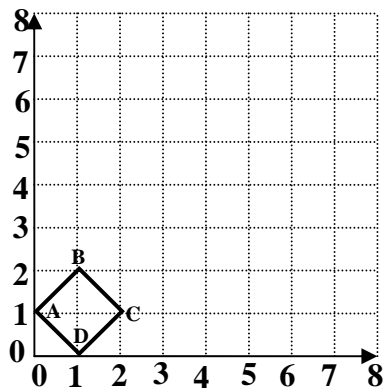
13) Roberto walks into an electronics store to buy a new plasma television. The price of the television is \$3,500. Roberto waits a week until the store has a 30% off sale and then buys the television. How much did he save by purchasing the television at 30% off its original price?

14) A computer salesperson named Jessica receives a 5% commission for every computer that she sells. How much commission will the salesperson receive if she sells \$2250 worth of computers?

<p>15) What is the value of x if $6^x = 1296$?</p>	<p>16) What is the value of x if $7^5 = x$?</p>						
<p>17) Simplify the expression: $(4x^2 - 6x + 4) - (3x^2 + 4x - 2)$</p>							
<p>18) Write an equation that represents the expression: “the square of a number, x, is equal to the sum of that number and 15”.</p>							
<p>19) Which number is equivalent to the expression $-36 + 10$?</p> <p>A) -46 B) 46 C) 26 D) -26</p>	<p>20) Which number is equivalent to the expression $23 - 50$?</p> <p>A) -27 B) 27 C) 73 D) -73</p>						
<p>21) Solve for x: $-25 = 2z + 3(z + 10)$</p>	<p>22) Simplify the expression below.</p> $\frac{2x^3 + 4x^2}{2x^2}$						
<p>23) What is the missing number in the pattern below?</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td style="padding: 2px 10px;">2</td> <td style="padding: 2px 10px;">6</td> <td style="padding: 2px 10px;">18</td> <td style="padding: 2px 10px;">54</td> <td style="padding: 2px 10px;">?</td> <td style="padding: 2px 10px;">486</td> </tr> </table> <p>A) 72 B) 90 C) 108 D) 162</p>	2	6	18	54	?	486	<p>24) The human hear beats an average of 37,800,000 times in one year. What value of x will make 3.78×10^x have the same value as 37,800,000?</p> <p>A) -5 B) -7 C) 5 D) 7</p>
2	6	18	54	?	486		
<p>25) What is the value of the expression below?</p> $5 + 6 \times (-3) - (7 - 2)$	<p>26) Which numbers can represent the side lengths of a right triangle?</p> <p>A) 4, 8, 10 B) 7, 12, 15 C) 6, 8, 10 D) 8, 9, 11</p>						
<p>27) Which numbers can represent the side lengths of a right triangle?</p> <p>A) 20, 99, 101 B) 10, 112, 32 C) 2,3,1 D) 4, 6, 8</p>	<p>28) Solve for x: $7x - 15 = 15 + 5x$</p>						
<p>29) A beautiful brand new plasma television screen measures 50 inches along its diagonal. The screen is 46 inches wide. What is the height of the screen?</p>	<p>30) Five big hamburgers cost a total of \$10.50. If there is a tax rate of 8.25% applied to the total cost, how much will the hamburgers cost after tax?</p>						

31. Scale Polygon ABCD using a scale factor of 2.
 a) List the coordinates of the original figure.
 b) List the coordinates of the image.
 c) Draw the image of Polygon ABCD on the graph and label the points A' – D'

ORIGINAL	IMAGE
A(,)	A'(,)
B(,)	B'(,)
C(,)	C'(,)
D(,)	D'(,)



32) What is the complement of an angle that measures 72 degrees?

33) What is the supplement angle of an angle that measures 115 degrees?

34) In the equation $6^3 \times 6^7 = 6^?$, what number could replace the “?” to make the equation true?

35) In the equation $10^5 \times 10^6 = 10^?$, what number could replace the “?” to make the equation true?

- A) 7 B) 14 C) 21 D) 10

- A) 11 B) 12 C) 30 D) 35

36) 12^0 is equivalent to which of the following?

37) Which is equivalent to 4^{-3} ?

- A) 12 B) 0 C) 1 D) -12

- A) 4 B) 64 C) $\frac{1}{4^3}$ D) -4^3

38) Rewrite the expression $(-b)(-b)(-b)(-b)$ in exponential form.

39) Evaluate $\frac{2^3}{4^2}$

- A) $4b$ B) $4(-b)$ C) $(-b)^4$ D) $-4b$

40) Rewrite 507,000 in scientific notation.

41) A scientist looks under a microscope at a particle that is 4.5×10^{-7} cm wide. How is this measure expressed in standard notation?

- a) 50.7×10^4 b) 5.07×10^4 c) 0.507×10^4
 d) 507×10^3 e) 5.07×10^5

- a) 0.0000045 b) 4,500,000 c) 0.00000045
 d) 0.000045 e) 45,000

42) The distance between two towns is 5,200,000 feet. Write the number in scientific notation.

43) Write the expression $(a + b)(a + b)(a + b)$ using exponents.

- a) 5.2×10^7 b) 5.2×10^6 c) 52×10^7 d) 52×10^6

- a) $a^3 + b^3$ b) a^3b^3 c) $(a + b)^3$
 d) $3a^3 + 3b^3$ e) $3a + 3b$

44) What property justifies the statement $3(a + 2b) = 3a + 6b$?

45) Add parentheses and/or any of the symbols (+, -, ×, ÷) to make the following a true statement:

- a) Commutative Property of Multiplication
 b) Commutative Property of Addition
 c) Associative Property of Multiplication
 d) Distributive Property

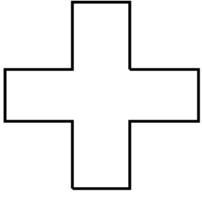
$$12 - 9 - 3 = 2$$

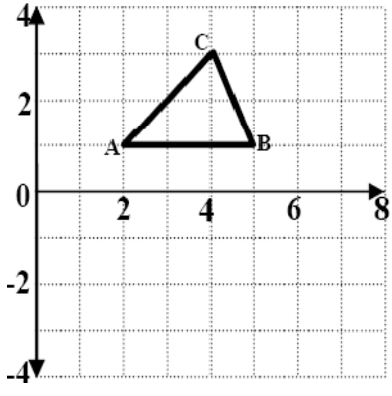
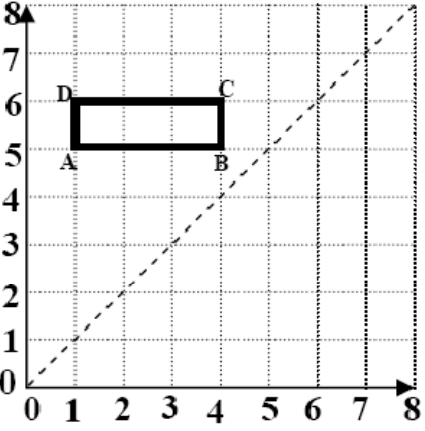
- a) $(12 - 9) \div 3 = 2$ b) $12 \div 9 - 3 = 2$
 c) $12 \div (9 - 3) = 2$ d) $12 - 9 \div 3 = 2$
 e) $12 - (9 \div 3) = 2$


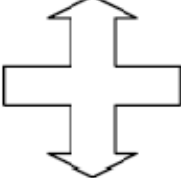
46) Jessica has worked hard and has received her degree from college. She works a job that has an annual salary of \$35,000. Now that she has received a degree from college, her boss has informed her that she will now make 250% of her annual salary. What is Jessica's salary after the increase?

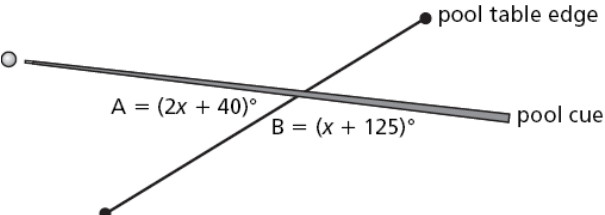
47) A group of 4 friends ate at a dinner and have figured out that they have eaten \$77.00 worth of food. If a tax rate of 8% and a gratuity of 13% is added to the bill, what will the total bill be with tax and gratuity included?

Tax: \$ _____, Tip: \$ _____, Total: \$ _____

<p>48) From the total that was figured out in question #47, how much will each person have to pay to cover the bill with tax and tip included?</p>	<p>49) Translate the following into algebraic expressions.</p> <p>A) Seven subtracted from twice a number. _____</p> <p>B) Two times the sum of a number and five. _____</p> <p>C) Eight decreased by a number. _____</p>
<p>50) Translate the following into an algebraic equation.</p> <p>A) Four times the sum of a number and four is three less than twice the number. _____</p> <p>B) If four is subtracted from three times a number, the result is ten more than the number. _____</p> <p>C) Seven times the sum of a number and three is six less than ten times the number. _____</p>	<p>51) Draw the image of the following figure under a rotation of 90 degrees.</p> 
<p>52) A) Solve for x: $3x + 10 = x - 7$</p> <p>B) Solve for x: $7(x - 5) + 3x = -45$</p>	<p>53) Write the rule for the following translation:</p> <p>A) Dilation of a figure to a factor of 5. _____</p> <p>B) Shifting or moving a figure up 10 and to the right 6. _____</p> <p>C) Shifting or moving a figure to the left 6. _____</p> <p>D) Shifting or moving a figure down 5 and to the right 2. _____</p>

<p>54) Draw the reflection of triangle ABC over the x-axis and label the prime points A', B' and C'.</p> 	<p>55) Draw the reflection of rectangle ABCD over the line $y = x$ and label the prime points.</p> 
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<p>56) Draw the following figure under a rotation of 180 degrees.</p> 	<p>57) Draw the following figure under a rotation of 90 degrees.</p> 
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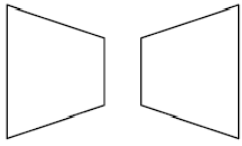
<p>58) What is the measure of angle A? Show your work?</p> 	<p>59) At a family reunion, Kate noticed that the number of people attending could be divided into three equal groups. She also noticed the number could be divided equally into groups of four, five, or six. What is the smallest number of people who could have attended the reunion?</p> <p>a) 30 people b) 60 people c) 90 people d) 120 people</p>
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60) Identify each transformation as: rotation, scaling, reflection or translation.

A)

Big Mac **Big Mac**

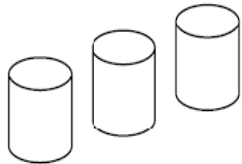
B)



C)



D)



60a) Edra made fishing poles for her sister and herself. She used $\frac{3}{5}$ of a 10 foot stick of bamboo for her pole and the rest for her sister's. How long is her sister's fishing pole?

- a) 8 feet b) 6 feet c) 4 feet d) 2 feet

60b) Solve for the missing variable:

$$8x + 10 = 10x - 14$$

61) What is the next number in this sequence?

15 60 240 960 ?

- a) 1,240 b) 1,275 c) 1,920 d) 3,840

62) A car travelled 187 miles in 3 hours and 24 minutes. What was the average speed of the car in miles per hour?

- a) 50 mph b) 55 mph c) 58 mph d) 62 mph

63) Which jacket has the lowest sale price?

- a) 5% off a jacket originally priced at \$26.00
 b) 10% off a jacket originally priced at \$26.00
 c) 15% off a jacket originally priced at \$30.00
 d) 20% off a jacket originally priced at \$30.00

64) Jackie has four jars of marbles that contain x marbles and three jars that contain y marbles. Which expression represents the total number of marbles Jackie has?

- a) $4x + 3y$ b) $3x + 4y$
 c) $(3 + 4)(x + y)$ d) $4(x + y) + 3(x + y)$

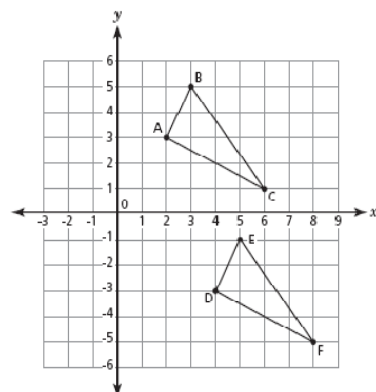
65) The table below shows the relationship between the hours Joe works and the money he earns.

Joe's Earnings	
Hours Worked	Money Earned
2	\$12.50
4	\$25.00
6	\$37.50
8	
10	

How much money does Joe earn if he works 10 hours?

- a) \$50.00 b) \$62.50 c) \$75.00 d) \$100.00

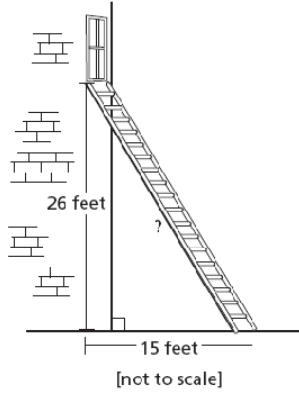
66) Triangle DEF is a translation of triangle ABC.



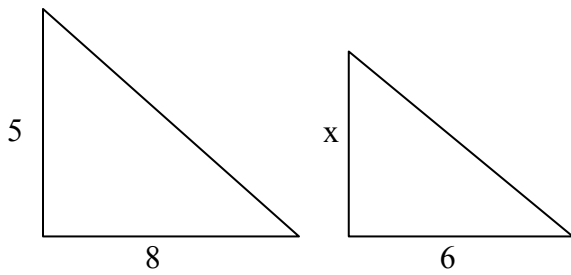
Which statement describes the translation above?

- e) 2 units to the right, 6 units down
 f) 2 units to the right, 6 units up
 g) 6 units to the right, 2 units down
 h) 6 units to the right, 2 units up

67) A window washer leans a ladder up against a wall so that the top of the ladder touches the base of the window, as shown below. The bottom of the ladder is 15 feet from the wall, and the base of the window is 26 feet from the ground. What is the length of the ladder to the nearest foot?



68) What value of x would make the triangles below similar?



69) Find the unit price of each of the following.

A) A package of 200 sheets of paper costs \$3.00.

B) A package of 40 apples costs \$17.99.

C) What is the unit price to the nearest cent of a 150 pound back of rock salt that sells for \$97.44?

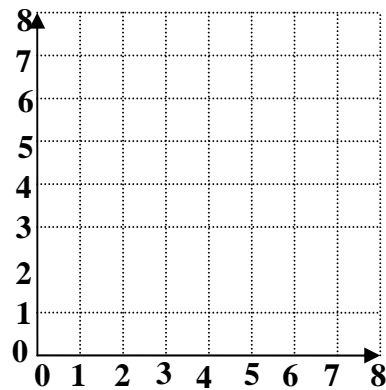
70) Combine like terms: $4X^3 + 6Y - 10X^3 + 3Y - 12$

71) Solve for x : $3(x + 10) = 60$

72) Complete the following table and graph the ordered pairs. Please label all coordinates on the graph at the right.

X	Y
0	1.5
1	2.5
2	3.5
3	4.5

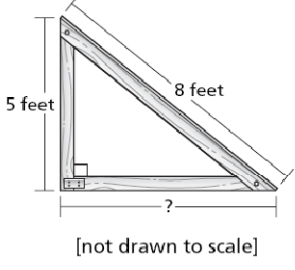
Rule: _____



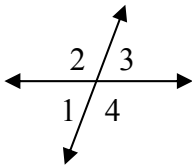
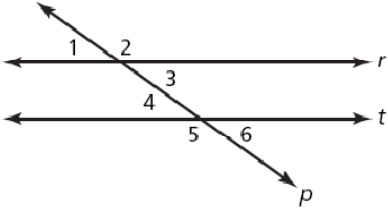
73) Joe made a scale drawing of the distance between a school and a fast food restaurant. He used a scale of $\frac{1}{2}$ inch = 1 mile. The distance between the school and the restaurant in the drawing is 5 inches. What is the actual distance between the school and restaurant?

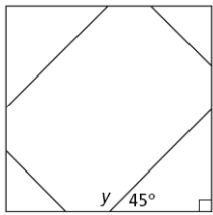
74) Multiply the expressions below.

A) $(x - 3)(x + 5)$ B) $(3x - 5)(2x - 8)$

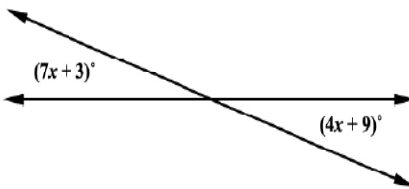
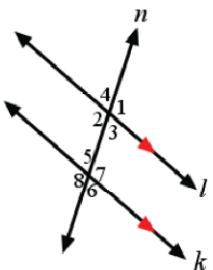
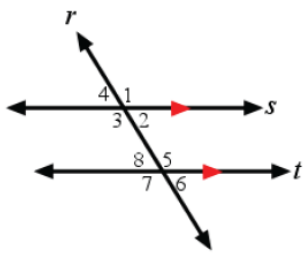
<p>75) Find the absolute value of the following:</p> $ 2 + 17 - 21 $ <p>a) -2 b) 2 c) 40 d) -40</p>	<p>76) On a car speedometer, the needle moves 1 centimeter for every 10 miles per hour (mph). If a car travels at 65 mph, how many centimeters has the needle moved from 0?</p> <p>a) 5.5 cm b) 6.5 cm c) 7 cm d) 75 cm</p>	<p>77) What property is being demonstrated by the following equation?</p> $(6 + 5) + 4 = 6 + (5 + 4)$ <p>a) The Commutative Property of Addition b) The Associative Property of Addition c) The Distributive Property d) The Identity Property of Addition</p>
<p>78) The distance to the state capital is 90 miles from the Kingston School. The speed on the thruway is 65 miles per hour. Which proportion can be used to find the approximate time it will take for the trip, t?</p> <p>a) $\frac{65}{1} = \frac{90}{t}$ b) $\frac{90}{65} = \frac{1}{t}$ c) $\frac{90}{1} = \frac{t}{65}$ d) $\frac{1}{t} = \frac{90}{65}$</p>	<p>79) Justin is building a skateboarding ramp with a piece of wood that is 8 feet long. He wants the height of the ramp to be 5 feet. SHOW YOUR WORK</p>  <p>[not drawn to scale]</p> <p>What will be the length of the base rounded to the nearest tenth of a foot. Show all your work.</p>	
<p>80) In the equation below, which value of x will make this statement true?</p> $4(x + 4) \div 6 = 6$ <p>a) 0 b) 2 c) 4 d) 5</p>	<p>81) Which property is demonstrated below?</p> $8 \times (4 + 2) = (8 \times 4) + (8 \times 2)$ <p>a) Associative Prop of Multiplication b) Commutative Prop of Multiplication c) Distributive Property d) Identity Prop of Multiplication</p>	<p>82) On a flight from Seattle to St. Louis, an airplane can travel 320 miles in 1 hour. At this rate, how long will it take the airplane to finish the 1,280 mile flight?</p> <p>a) 1 hour b) 3.5 hours c) 4 hours d) 10 hours</p>
<p>83) CJ has \$25 to buy gas. If gas costs n cents per gallon, which formula will help Jen find how many gallons she can buy with \$25?</p> <p>a) $25 - n$ b) $\frac{n}{25}$ c) $\frac{25}{n}$ d) $25 \times n$</p>	<p>84) 73 people ate Big Macs yesterday. 98 people ate Big Macs today. Which equation shows t, the total number of people who ate Big Macs?</p> <p>a) $98 - t = 73$ b) $98 + 73 = t$ c) $98 \div 73 = t$ d) $73 \times 98 = t$</p>	<p>85) A radio station plays 3 commercials for every 8 songs it plays. How many commercials will play when 112 songs are played?</p> <p>a) 4 b) 14 c) 24 d) 42</p>
<p>86) What is the prime factorization of 72?</p> <p>A) $2^3 \times 3^2$ B) $2^3 + 3^2$ C) $2 \times 3^2 \times 4$ D) $2^5 + 3^3 + 13$</p>	<p>87) Simplify</p> $5(X + 6) + 3X - 4$	<p>88) Simplify</p> $(7xy + 4b + 6) - (2xy + 2b - 4)$
<p>89) What is the selling price of a \$989 television that is on sale at a 20% discount?</p>	<p>90) 363 students attended I.S. 34 25 years ago. The number of students that attend I.S. 34 in 2007 is 315% more than the number of students that attended the school 25 years ago. How many students attend our school now?</p>	

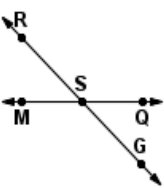
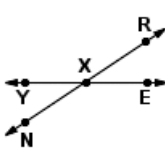
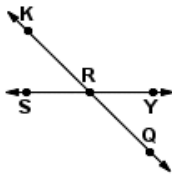
91) Find the value of $x^2 + 3x - 10$ when $x = -6$	92) Multiply: $(-3x^3)(-4x^2)$
93) Multiply: $(6x + 5)(2x - 1)$	94) Multiply: $(4x - 4)(2x + 3)$

95) In the figure below, which angles form a pair of vertical angles? 	96) In the figure below, $r \perp t$ with $m\angle 3 = 75$, find $m\angle 5$. Show your work below. 
a) $\angle 2$ and $\angle 3$ b) $\angle 2$ and $\angle 4$ c) $\angle 2$ and $\angle 1$ d) $\angle 2$ and $\angle 3$	

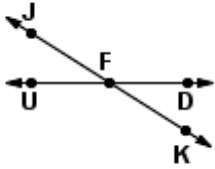
97) Chris made a table in his woodworking class. The diagram of the top of his table is shown below. Be sure to tell what type of angle that y and 45° add to form. 	In the space below, explain how you arrived at your answer.
What is the measure of y ? a) 45 b) 55 c) 135 d) 145	

98) An angle which measures 90° is a a) straight angle b) obtuse angle c) right angle d) acute angle	99) Which of the following is the measure of an obtuse angle? a) 127 b) 33 c) 17 d) 90	100) If an angle has a measure of 47° , what is the measure of its complement? a) 137 b) 92 c) 85 d) 43
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101) Solve for the missing angle measurements. 	102) If the $m\angle 5 = 61$, find $m\angle 3$. 	103) If the $m\angle 7 = 118$, find $m\angle 1$. 
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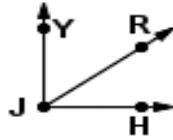
104) Name a pair of vertical angles. 	105) Name a pair of supplementary angles. 	106)  $m\angle YRK =$ _____ $m\angle SRQ = 134^\circ$
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107)



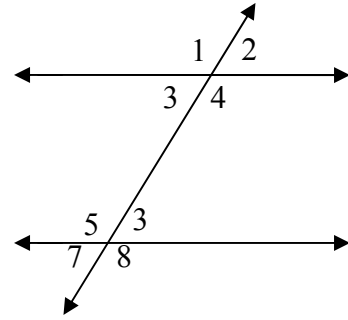
$m \angle UFJ =$ _____
 $m \angle UFK = 147^\circ$

108)

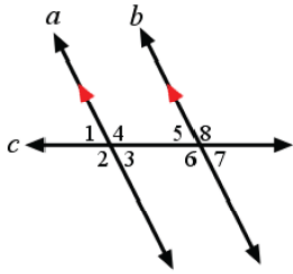


$m \angle YJR =$ _____
 $m \angle RJH = 37^\circ$

109) Name 4 pairs of supplementary angles.



110) If the $m \angle 3 = 70$, find $m \angle 8$.



111) Combine like terms.

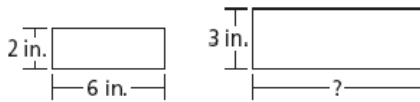
A) $9z^2 + 19z^2 + 13z + 11z + 18 - 2 + 3$

B) $8w^2 - 5w^3 - 15w^2 + 16w - 3w^3 - 10w$

112) Sal has an after school job in a hardware store. Today he is restocking sockets for socket wrench sets. If the sockets are to be arranged in size from smallest to largest, which list is in the correct order?

- a) -, -, -, - b) -, -, -, -
 c) -, -, -, - d) -, -, -, -

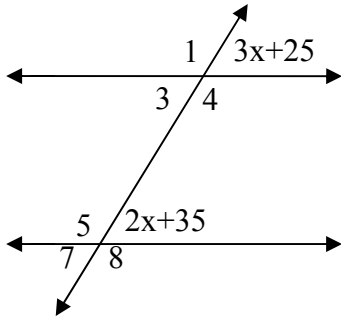
113) Use the information below about the similar rectangles to find the missing length. Show your work.



114) Using the information in the table, how much would 12 shirts cost? Write a proportion that proves your answer is correct.

Number of Shirts	Cost (in dollars)
1	17
2	29
3	41
4	53
5	65

115) Use the information below to:
 A) Solve for x.
 B) Find all angle measurements.
 C) Name a pair of supplementary angles.



116) Hummingbirds migrate across the Gulf of Mexico. If the distance across the Gulf of Mexico is about 525 miles and hummingbirds fly at a speed of 25 miles per hour, how long does it take a hummingbird to fly across the Gulf?

- a) 8.75 hours b) 10.5 hours c) 21.0 hours d) 25.0 hours

117) Two angles are complimentary. One angle measures 65° . What is the measure of the other angle?

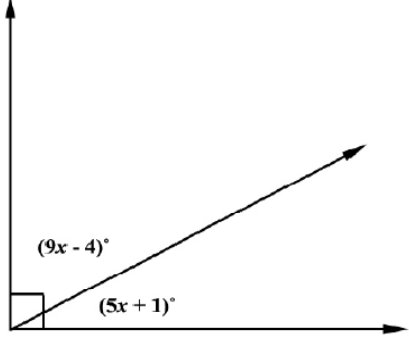
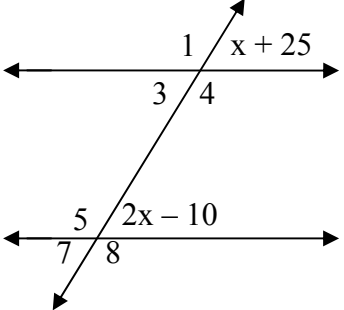
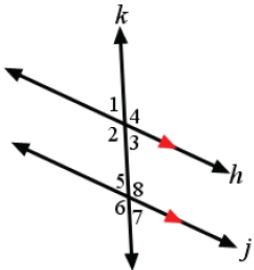
118) Alyssa is making a scale model of a monument that is 155 feet tall. She uses a scale of 1 inch = 5 feet. How tall should Casey make her model?

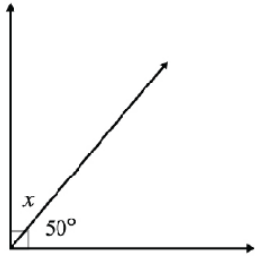
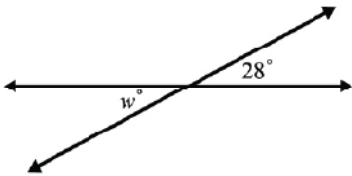
- e) 5 inches f) 8 inches
 g) 13 inches h) 31 inches

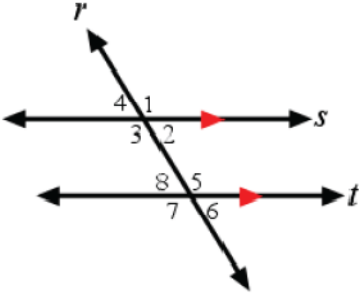
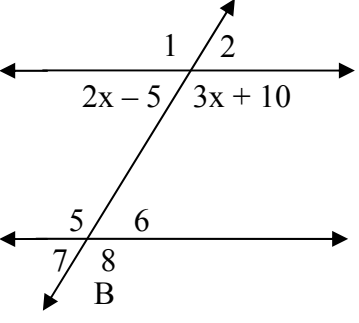
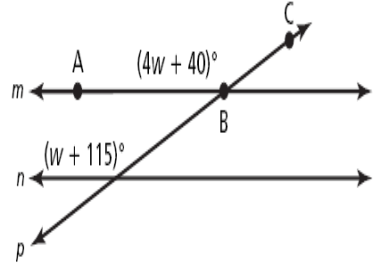
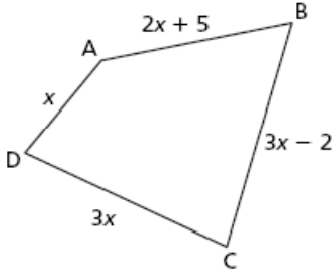
119) Multiply:

$(3x - 9)(10x - 3)$

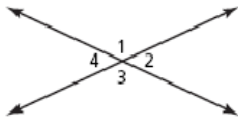
120) At a grocery store, Nick spent \$24.75 for 3 pounds of turkey and 3 pounds of cheese. The cheese cost \$4.50 per pound. What was the cost of the chicken per pound?

<p>121) How much will an investment of \$5,000 earn if it is invested for 4 years in an account that pays 5% simple interest?</p>	<p>122) What is the amount of interest that will be earned on an investment of \$9,000 at 12% simple interest for 3 years.</p>
<p>123) This year the profit at an electronics store was 350% more than last year. If the profit of the electronics store last year was \$92,000, what was the profit this year?</p>	<p>124) In the year 1995, there were 360 students who enrolled in an after school program. In 2005 there were 450 enrolled. What was the percent of increase in enrollment?</p>
<p>125) Convert the following to a decimal:</p> <p>A) $0.5\% =$ _____ B) $365\% =$ _____</p> <p>C) $4700\% =$ _____ D) $\frac{5}{8}\% =$ _____</p>	<p>126) Convert the following to a percent:</p> <p>A) $0.0005 =$ _____ B) $0.08 =$ _____</p> <p>C) $0.0065 =$ _____ D) $0.009 =$ _____</p>
<p>127) An item in a store regularly costs \$45 goes on sale at 25% off the regular price. What is the sale price?</p>	<p>128) Last year, there were 500 employees at manufacturing company. This year there is a 15% decrease in the number of employees from last year. How many employees are there in the company this year?</p>
<p>129) The Viola family went out to dinner and received a total bill of \$79.36. They wanted to leave a tip of 15%. About how much money should they leave? Please estimate.</p>	<p>130) Tom works in a hardware store. He earns \$50 per day, plus \$6 for each item that he sells. He is hoping to make at least \$125 today. Which inequality can be used to find n, the number of items he will have to sell.</p> <p>A) $6n + 50 \geq 125$ B) $6n - 50 \geq 125$ C) $50 - 6n \geq 125$ D) $50 + (n+6) \geq 125$</p>
<p>131) Billy wants to have at least \$85 to go shopping for a gift. He already saved \$35. He plans on saving \$15 per week. Which inequality can you use to find w, the number of weeks he will need to save to achieve his goal?</p> <p>A) $w + 35 \geq 85$ B) $15w + 35 \geq 85$ C) $35w + 15 \geq 85$ D) $15w - 30 \geq 85$</p>	<p>132) Solve for the missing angle measurements below.</p> 
<p>133) Solve for all of the angle measurements below.</p> 	<p>134) If the $m\angle 3 = 42^\circ$, find $m\angle 6$.</p> 

<p>135) Simplify the expression.</p> $7d - 10d + 5$ <p>a) $-3d$ b) $3d + 5$ c) $-3d + 5$ d) $3d$</p>	<p>136) What is $\frac{3}{600}$ expressed as a percent?</p> <p>a) 2.0% b) 0.5% c) 0.2% d) 5.0%</p>	<p>137) Jamie is writing a paper that must be at least 20 pages long. She has written 5 pages and will write 2 pages each day. What inequality can be used to find the number of days (d) Jamie must write her paper?</p> <p>a) $2d - 5 \leq 20$ b) $2d - 5 \geq 20$ c) $2d + 5 \leq 20$ d) $2d + 5 \geq 20$</p>
<p>138) Solve for x.</p> $7x + 3 = 9x - 5$	<p>139) Solve for x.</p> $\frac{x+6}{2} = \frac{4x-3}{5}$ <p>a) 39 b) 12 c) 33 d) 23</p>	<p>140) Find the product of the following.</p> $(8x^3y^2) \text{ and } (5y^6z^4)$
<p>141) Find the product of the following.</p> $(4a^5b^2c^2) \text{ and } (3a^6b^4c)$	<p>142) Divide the following.</p> $\frac{10x^4 - 40x}{5x}$	<p>143) What is the measure of angle x?</p> 
<p>144) Brianna needs to collect at least 35 cans of food for a benefit. She has 8 cans of food and she will collect 3 cans of food each day. Which inequality can be used to find the number of days (d) she needs to collect cans?</p> <p>a) $3d - 8 \geq 35$ b) $3d + 8 \leq 35$ c) $3d + 8 \geq 35$ d) $3d - 8 \leq 35$</p>	<p>145) Nikita bought stock at \$9.50 a share. During the last six months the price per share increased 160%. How much has the price per share gone up in the last six months?</p>	<p>146) What is the $m \angle w$ based on the figure below?</p> 
<p>147) Simplify the expression.</p> $15xy - 10x + 3xy$	<p>148) What is the product of $(6a^4b^5c^6)(2a^2b^3c)$</p>	<p>149) What is the sum of the following.</p> $(2 + 2)^2 \text{ and } 3^3$
<p>150) Laura earned a 3% commission on all of her sales in June. Her total sales were \$65,000 in June. How much money did she earn from her sales?</p>	<p>151) In order for Mike to buy a new HD DVD player, he must save at least \$275. Which inequality represents the amount of money (m), Steve must save?</p> <p>a) $m \leq 275.00$ b) $m < 275.00$ c) $m \geq 275.00$ d) $m > 275.00$</p>	<p>152) What is the quotient of</p> $\frac{25x^5b^4}{5x^2b^2}$
<p>153) What is the quotient of</p> $\frac{100a^6b^5c^4}{10a^2b^4c^5}$	<p>154) What is the quotient of</p> $\frac{55b^6i^5g^4m^3a^3c}{11b^2i^3g^2m^2a^2c}$	<p>155) What is the quotient of</p> $\frac{42a^{10}b^7c^5}{6a^4b^3c^2}$

<p>156) What is the product of</p> $12a^6b^2c^2 \cdot 2a^3b^2c$	<p>157) What is the product of</p> $(8q^5r^6s)(4q^8r^2s)$	<p>158) What is the product of</p> $(9x^9y^8z^7)(3x^3y^2z)$										
<p>159) Solve for x:</p> $5(x - 25) = 75$	<p>160) Solve for the missing variable:</p> $3(x + 8) + 4x - 14 = 38$	<p>161) Simplify:</p> $5x + 12 - 3y - 10x + 23 + 12y$										
<p>162) If the $m\angle 2 = 9x + 3$ and the $m\angle 6 = 4x + 23$ What is the measure of $\angle 7$?</p> 	<p>163) If the $m\angle 3 = 2x - 5$ and the $m\angle 4 = 3x + 10$ What is the measure of $m\angle 2$?</p> 	<p>164) In the figure below, line m is parallel to line n. Line p is a transversal. Find the $m\angle ABC$?</p> 										
<p>165) Solve for a:</p> $-2y + 11 = -6y + 35$	<p>166) Solve for the missing variable:</p> $8(2x - 3) = -8$	<p>167) Solve for the missing variable:</p> $4(x + 1) = 2x - 2$										
<p>168) Complete the table of values below for the equation $y - 2x = 2$.</p> <table border="1" data-bbox="251 2064 467 2233"> <thead> <tr> <th>x</th> <th>y</th> </tr> </thead> <tbody> <tr> <td>-2</td> <td></td> </tr> <tr> <td>-1</td> <td></td> </tr> <tr> <td>0</td> <td></td> </tr> <tr> <td>1</td> <td></td> </tr> </tbody> </table>	x	y	-2		-1		0		1		<p>169) Bob wrote the sentence below. Sixty-three is greater than or equal to five plus the product of a certain number, x, and 15. Write Bob's sentence as an algebraic inequality. As always have fun!!</p>	<p>170) In the figure ABCD shown below, the total length of the sides is equal to 84 inches.</p>  <p>Find the length of side BC.</p>
x	y											
-2												
-1												
0												
1												

171) Which pair of angles have the same measurement?



a) $\angle 1$ and $\angle 4$ b) $\angle 2$ and $\angle 3$
c) $\angle 3$ and $\angle 4$ d) $\angle 2$ and $\angle 4$

172) Translate the following expression.

John gets paid \$10 for every mile he drives plus \$4 for toll expenses.

173) Simplify the expression.

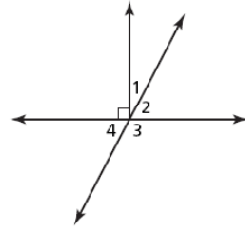
$$6x(3x - 6)$$

174) Simplify the expression.

$$\frac{20x^5 - 10x^3}{5x^2}$$

175) John claims that the money, m , that he has in his pocket is at most \$15.50. Write an inequality that represents his claim.

176) Which of the angles below are supplementary?



177) Miji went shopping for new shoes. She found a pair of shoes that were originally priced at \$95 on sale for \$76. By what percent had the shoes been marked down?

178) The cost of Jill's dinner was \$30.50. She paid an additional tip that was 20% of the cost of the dinner. What is the best estimate of the amount of tip she left?

179) Find the value of x .

$$4(x + 3) = 2x$$

180) Please translate the following.

Ten times a number minus six.

Fifteen minus nine times a number.

181) Simplify the expression.

$$\frac{90x^8b^3}{15x^3b^2}$$

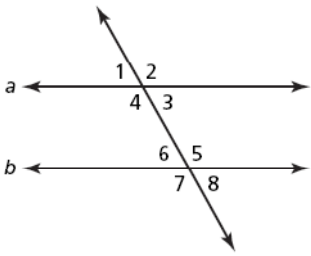
182) Simplify the expression.

$$19x^2 - 24x^2$$

183) List the coordinates of the image based on a dilation of 3.

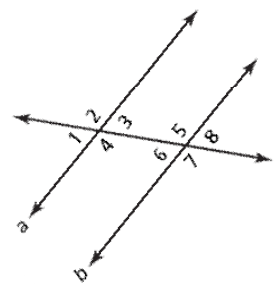
ORIGINAL	IMAGE
A(5 , 7)	A'(,)
B(6 , 9)	B'(,)
C(10 , 13)	C'(,)
D(3 , 4)	D'(,)

184) In the diagram below which angle is supplementary to angle 6?

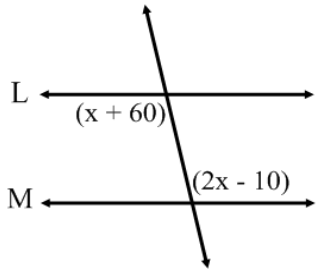


a) $\angle 3$ b) $\angle 8$
c) $\angle 1$ d) $\angle 7$

185) In the diagram below $\angle 1$ is equal to 55° . What is the measure of $\angle 8$?



a) 35° b) 55°
c) 125° d) 170°

<p>186) Simplify the expression below.</p> $\frac{15x^2y^3}{3xy}$ <hr/>	<p>187) Multiply</p> $(x + 2)(2x - 2)$ <hr/>	<p>188) Factor the expression below using the greatest common factor (GCF).</p> $18a^6 + 9a^3 + 3a$ <hr/>
<p>189) The perimeter of a rectangle is 18 inches. Under which transformation could the area of the image of the rectangle be greater than 18 inches?</p> <p>a) rotation b) translation</p> <p>c) dilation d) reflection</p> <p>Explain your answer in words.</p>	<p>190) Elisa buys a pair of shoes that is on sale for 30% off. The regular price is marked as \$67.00. What is the sale price of the pair of shoes? SHOW ALL WORK.</p> <p>Answer: \$ _____</p>	<p>191) In the diagram below, line l and m are parallel.</p> <p>Show your work.</p> <p>Solve for x.</p> <p>Answer x = _____</p> <p>What is the measure in degrees of the angle represented by $(2x - 10)$?</p> 
<p>192) What is the polynomial resulting from the subtraction below?</p> $(4x^4 + 5x - 8) - (2x^2 - 2x + 4)$ <hr/>	<p>193) Danielle is shopping and sees that the price of 4 melons is \$7.00. Write a proportion that Danielle can use to find the price of 1 melon. Show all work.</p> <p>Proportion _____</p> <p>Use your proportion to find the price of 1 melon.</p> <p>Answer \$ _____</p>	<p>194) Kristen earned a 6% commission on all of her sales in June. Her total sales were \$4,300 in October. How much money did she earn from her sales? Show all work.</p> <p>Part B: Kristen receives an additional 2% bonus during October. What would be her combined commission and bonus based on her sales of \$4,300?</p>

195)

The table below shows the coordinates of triangle ABC and the coordinates of triangle A'B'C'.

Triangle A'B'C' is a **dilation** of ABC.

	Triangle ABC		Triangle A'B'C'
A	(-3, -4)	A'	(-6, -8)
B	(0, 2)	B'	
C	(2, -1)	C'	

What are the coordinates of B' and C'?

What is the rule for the above dilation?

$$(x,y) \longrightarrow (\quad , \quad)$$

196)

The table below shows the coordinates of triangle ABC and the coordinates of triangle A'B'C'.

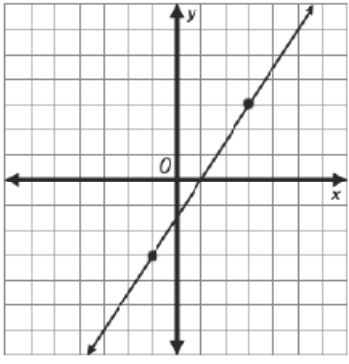
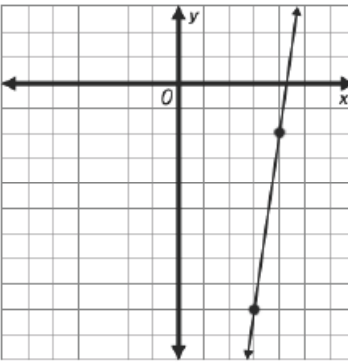
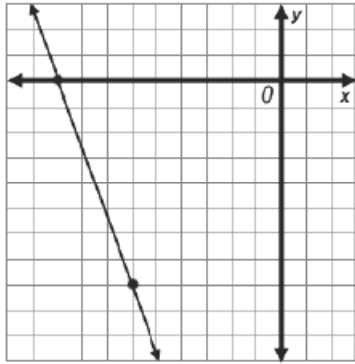
Triangle A'B'C' is a **dilation** of ABC.

	Triangle ABC		Triangle A'B'C'
A	(2, 5)	A'	(6, 15)
B	(4, 4)	B'	
C	(5, 6)	C'	

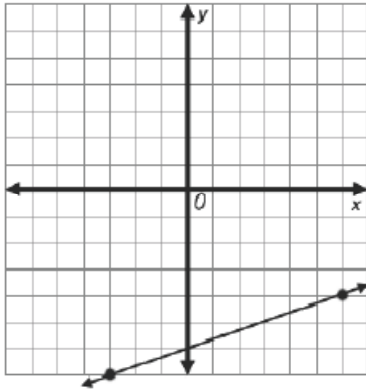
What are the coordinates of B' and C'?

What is the rule for the above dilation?

$$(x,y) \longrightarrow (\quad , \quad)$$

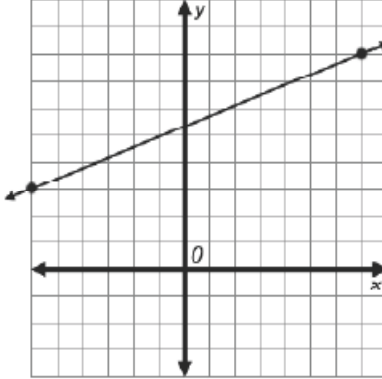
<p>197) What is the slope of the line that passes through the points (1, 2) and (3, 7)?</p>	<p>198) What is the slope of the line that passes through the points (2, -3) and (6, -1)?</p>	<p>199) What is the slope of the line that passes through the points (0, 4) and (-1, -5)?</p>																														
<p>200) What is the slope of the line that passes through the points (-1, 9) and (5, -3)?</p>	<p>201) What is the slope of the line that passes through the points (-5, -2) and (3, -5)?</p>	<p>202) What is the slope of the line that passes through the points (1, 2) and (3, 7)?</p>																														
<p>203) What is the slope and y-intercept of the linear equation:</p> $y = -3x - 3$ <p>m = _____ b = _____</p>	<p>204) What is the slope and y-intercept of the linear equation:</p> $y = 4x - 7$ <p>m = _____ b = _____</p>	<p>205) What is the slope and y-intercept of the linear equation:</p> $y = \frac{1}{2}x + 2$ <p>m = _____ b = _____</p>																														
<p>206) What is the slope and y-intercept of the linear equation:</p> $y - 8 = -2x$ <p>m = _____ b = _____</p>	<p>207) What is the slope and y-intercept of the linear equation:</p> $-2x + 5y = 10$ <p>m = _____ b = _____</p>	<p>208) What is the slope and y-intercept of the linear equation:</p> $y = -x - 4$ <p>m = _____ b = _____</p>																														
<p>209) Find the slope of the line using the graph below.</p>  <p>m = _____</p>	<p>210) Find the slope of the line using the graph below.</p>  <p>m = _____</p>	<p>211) Find the slope of the line using the graph below.</p>  <p>m = _____</p>																														
<p>212) Find the slope of the line with the points:</p> <table border="1" data-bbox="154 2311 276 2513"> <thead> <tr> <th>X</th> <th>Y</th> </tr> </thead> <tbody> <tr> <td>5</td> <td>2</td> </tr> <tr> <td>8</td> <td>4</td> </tr> <tr> <td>11</td> <td>6</td> </tr> <tr> <td>14</td> <td>8</td> </tr> </tbody> </table>	X	Y	5	2	8	4	11	6	14	8	<p>213) Find the slope of the line with the points:</p> <table border="1" data-bbox="609 2311 730 2513"> <thead> <tr> <th>X</th> <th>Y</th> </tr> </thead> <tbody> <tr> <td>3</td> <td>8</td> </tr> <tr> <td>9</td> <td>5</td> </tr> <tr> <td>15</td> <td>2</td> </tr> <tr> <td>21</td> <td>-1</td> </tr> </tbody> </table>	X	Y	3	8	9	5	15	2	21	-1	<p>214) Find the slope of the line with the points:</p> <table border="1" data-bbox="1063 2311 1185 2513"> <thead> <tr> <th>X</th> <th>Y</th> </tr> </thead> <tbody> <tr> <td>8</td> <td>5</td> </tr> <tr> <td>5</td> <td>9</td> </tr> <tr> <td>2</td> <td>13</td> </tr> <tr> <td>-1</td> <td>17</td> </tr> </tbody> </table>	X	Y	8	5	5	9	2	13	-1	17
X	Y																															
5	2																															
8	4																															
11	6																															
14	8																															
X	Y																															
3	8																															
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X	Y																															
8	5																															
5	9																															
2	13																															
-1	17																															

215) Find the slope of the line using the graph below.



$m = \underline{\hspace{2cm}}$

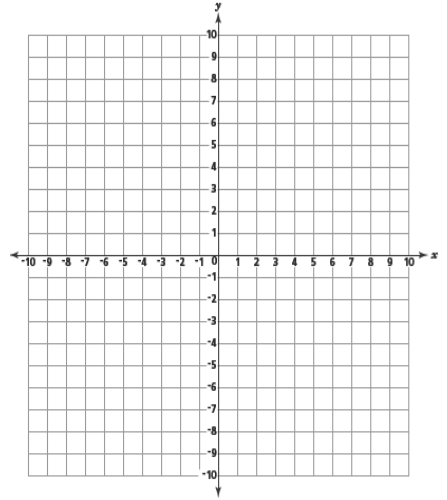
216) Find the slope of the line using the graph below.



$m = \underline{\hspace{2cm}}$

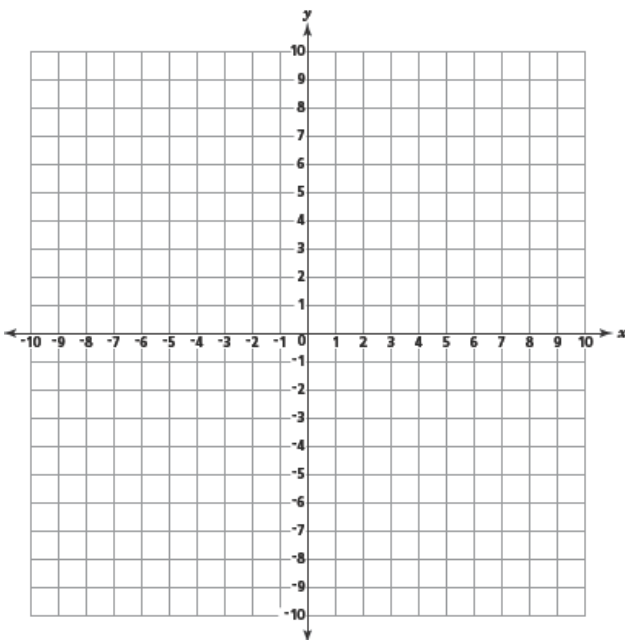
217) Graph the following line:

$$y = 2x - 6$$



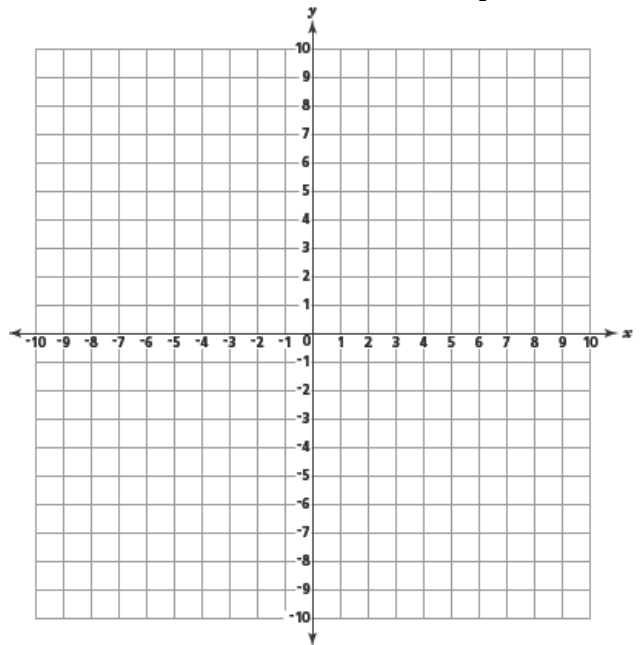
$m = \underline{\hspace{2cm}}$ $b = \underline{\hspace{2cm}}$

218) Graph the following line: $y = -3x - 1$



$m = \underline{\hspace{2cm}}$ $b = \underline{\hspace{2cm}}$

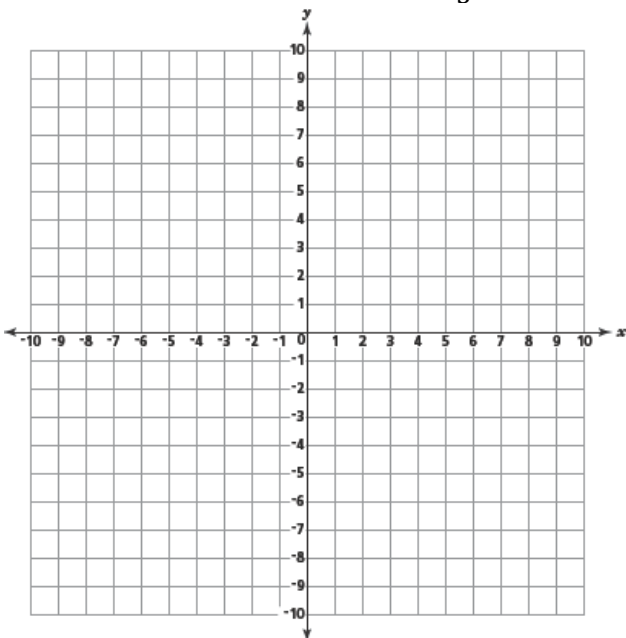
219) Graph the following line: $y = -\frac{1}{4}x + 2$



$m = \underline{\hspace{2cm}}$ $b = \underline{\hspace{2cm}}$

Graph the system of linear equations and find a coordinate solution.

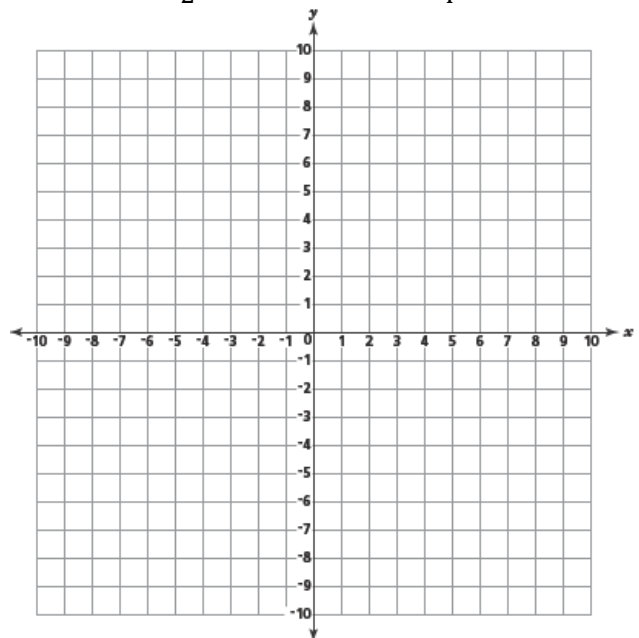
220a) $y = 3x - 2$ $y = \frac{2}{3}x + 5$



Solution: (,)

Graph the system of linear equations and find a coordinate solution.

220b) $y = -\frac{1}{2}x$ $y = \frac{5}{4}x - 7$



Solution: (,)

ARE YOU READY FOR PART II: THE NEXT PART?



THE DOCTOR