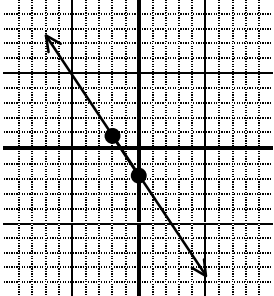
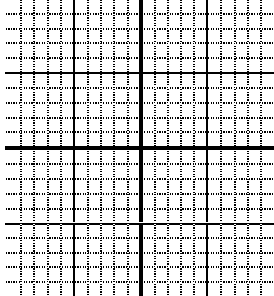


Problem	Slope-Intercept Form $y = mx + b$	Standard Form $Ax + By = C$	slope (m)	y-intercept (b) (0, #)	x-intercept (#, 0)	Parallel Slope $m_{//} = m$	Perpendicular Slope m_{\perp} is opp. reciprocal	Graph
$6x + 4y + 12 = 0$	$y = -\frac{3}{2}x - 3$	$6x + 4y = 12$	$m = -\frac{3}{2}$	(0, -3)	(-2, 0)	$m_{//} = -\frac{3}{2}$	$m_{\perp} = +\frac{2}{3}$	Example
$3 + 3y = -2x - 12$	1.	2.	3.	4.	5.	6.	7.	8.
$6 = x - y$	9.	10.	11.	12.	13.	14.	15.	16.
$3y = 9x + 15$	17.	18.	19.	20.	21.	22.	23.	24.
$y - 50 = 8(x - 4)$	25.	26.	27.	28.	29.	30.	31.	32.
$y = 3x - 8$	33.	34.	35.	36.	37.	38.	39.	40.
$2x + y = 6$	41.	42.	43.	44.	45.	46.	47.	48.
$-2 = -\frac{1}{2}x + 2y$	49.	50.	51.	52.	53.	54.	55.	56.
$x = -6$	57.	58.	59.	60.	61.	62.	63.	64.
$y = 4$	65.	66.	67.	68.	69.	70.	71.	72.

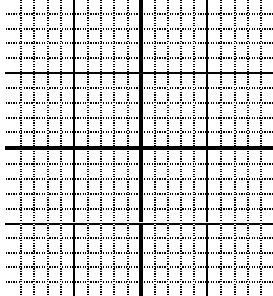
Example



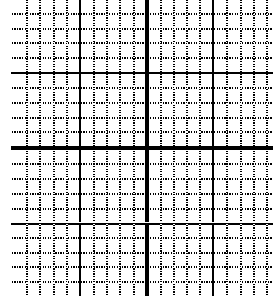
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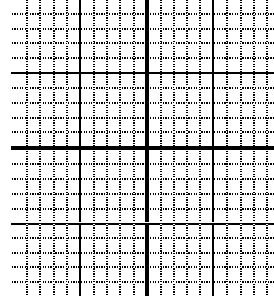
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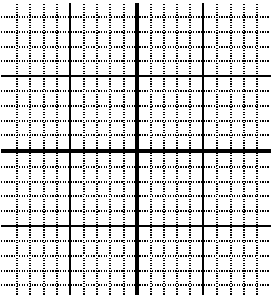
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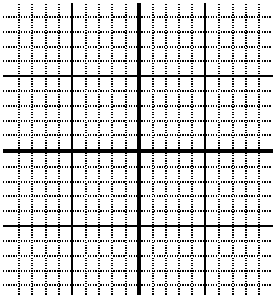
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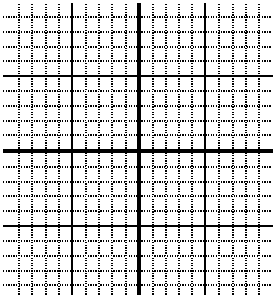
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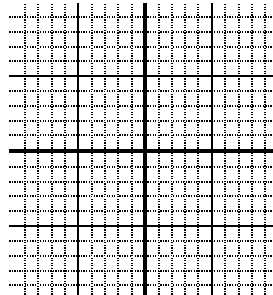
48.



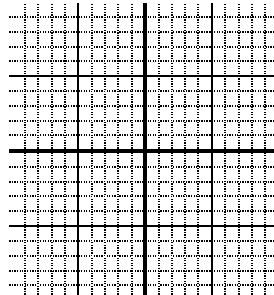
56.



64.



72.



LINEAR EQUATIONS: Write the coordinates of each point.

73. A = _____

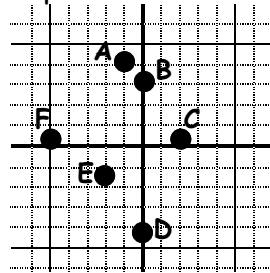
74. D = _____

75. B = _____

76. E = _____

77. C = _____

78. F = _____



Find the slope.

79. Rise: -5

Run: -7

m = _____

80. Rise: $-1\frac{3}{4}$

Run: $1\frac{2}{5}$

m = _____

81. (0, 0) and (6, 2)

m = _____

82. (-1, -4) and (3, 9)

m = _____

83. (5, 6) and (5, -2)

m = _____

84. (-1, -4) and (3, 9)

m = _____

85. (-2, 6) and (5, 6)

m = _____

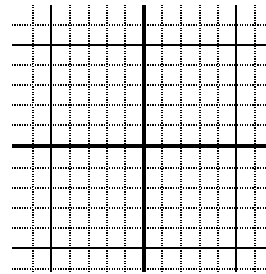
86. (-2, 8) and (7, 3)

m = _____

Fill in the table and graph the points.

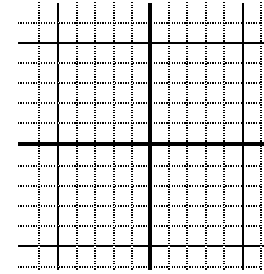
87. $y = 0.5x - 2$

x	y
-2	
0	
2	



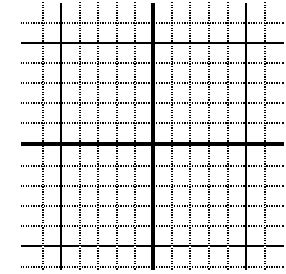
88. $y = 1 - x$

x	y
-1	
0	
1	



89. $x = 7$

x	y



Write the equation of the line in point-slope form $y - y_1 = m(x - x_1)$

90. Line through (2, 1) & (-1, -8)

91. Line through (3, 1) & (3, 19)

92. Slope of $\frac{-2}{3}$ through (5, -1)

Write the equation of the line in point-slope form that is parallel to the given line through the given point:

93. $2x + y = 6$; through (2, 3)

94. $6x + 4y = 12$; through (3, 4)

Write the equation of the line in point-slope form that is perpendicular to the given line through the given point:

95. $y = 3x - 8$; through (6, 5)

96. $y = 7$; through (2, 6)

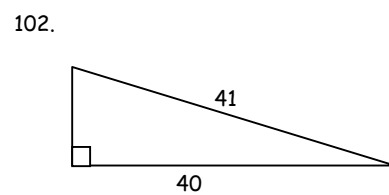
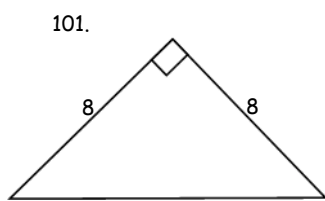
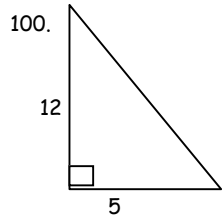
RADICALS: Write each radical expression in simplest form:

97. $\sqrt{63}$

98. $\sqrt{48}$

99. $\sqrt{300}$

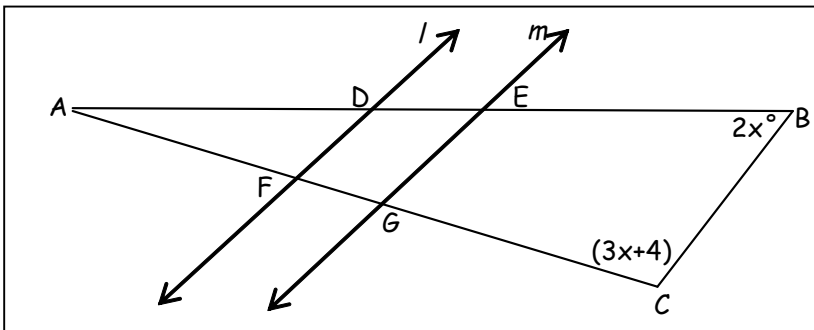
PYTHAGOREAN THEOREM: Find the missing side.



Find the indicated measures.

Given: Line l , line m , and segment BC are parallel.

$m\angle A = 26^\circ$



103. $m\angle FGE$

104. $m\angle AFD$

105. $m\angle ADF$

106. $m\angle GED$

107. $m\angle A$

SOLVING EQUATIONS: Solve for x .

108. $2 - 18x - 6 = -7x + 3 + 10x$

109. $-2x + 4(4 + x) = 2x - 4(6 - 3x)$

110. $9x - 11 = 2 - 2x + 9$

111. $3x + 9x - 3 = 7 - x$

112. $10x - 4 = 15 + 6x - 7x$

113. $3(2x - 7) = 2(2 + 4x)$

114. $22 + 3(x + 6) = -4(3x + 5)$

115. $\frac{410.2}{122.5} = \frac{58.6}{x}$

116. $10 + 3(4 - 6x) = -(6x + 12)$

117. $\frac{189}{x} = \frac{21}{42.8}$

118. $\frac{1}{2}(x - 5) + 1 = 2x + 4$

119. $3 - x > -3$

120. $\frac{-3}{4}x = 12$

121. $-2 = 8 - \frac{x}{5}$

122. $-1 + \frac{x}{4} = 3 + \frac{2x}{5}$

123. $4 - (5x - 6) \leq 18 - 3x$

124. $\frac{3}{5}x - \frac{7}{10} = -\frac{2}{5}$

125. $\frac{8}{3} - \frac{x}{2} = \frac{11}{6}$

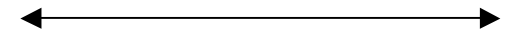
126. $3(2x+7) - 3x = 18$

127. $-14 = -2(5-x) + 16$

128. $3(1.5 + 2.5x) = -6.5 + 5.5x - 2.5(4 + 2x)$

Write a compound inequality to represent:

129. All numbers greater than -1 and less than or equal to 39 then display the inequality on a # line.



130. The flowers in the garden are 6 inches or taller or shorter than 3 inches. Display the inequality on a # line.



Evaluate the algebraic expressions below (no decimal answers):

131. $n^2 - 25$
- a) when $n = -10$ b) when $n = -5$
 c) when $n = 1/2$ d) when $n = 9$
132. $\frac{-7d + 14}{2}$
- a) when $d = 2$ b) when $d = -2$
 c) when $d = 6/7$ d) when $d = 4$
133. $2x^2 - x$
- a) when $x = 2$ b) when $x = -1$
 c) when $x = 1/4$ d) when $x = -1/2$

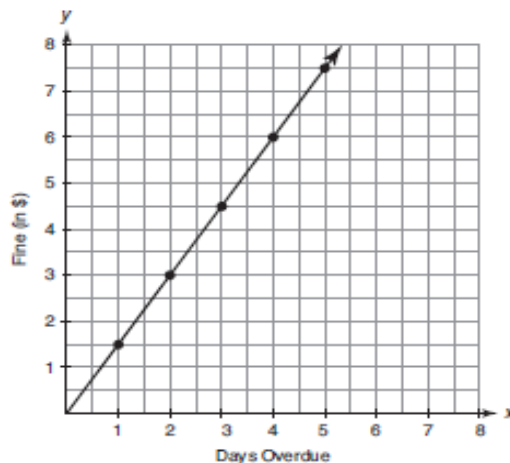
Show work or explain your thought process for #134 and #135 below.

134. The ages of three siblings total 21 years. The middle child is one year older than the youngest, and the eldest is three times as old as the youngest. How old is each child?
135. Francis earns \$3.50 an hour mowing lawns, and Bella earns \$5.25 an hour babysitting and spends \$11 a week on books. Francis also gets \$4.10 a week allowance. If Francis and Bella work the same number of hours a week and have the same amount of money at the end of each week, for how many hours a week do they each work?
136. Use the Distributive Property to rewrite the expression in its equivalent form (simplify)

$$\frac{500n + 300m - 100}{-100}$$

What will the fine be for a book that is

137. 3 days overdue?
138. 10 days overdue?
139. 1 day overdue?



FUNCTIONS: Describe if the following mappings represent functions.

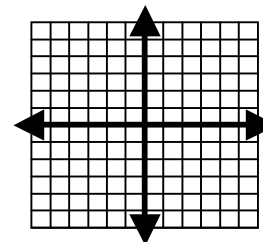


x	y
0	15

140.

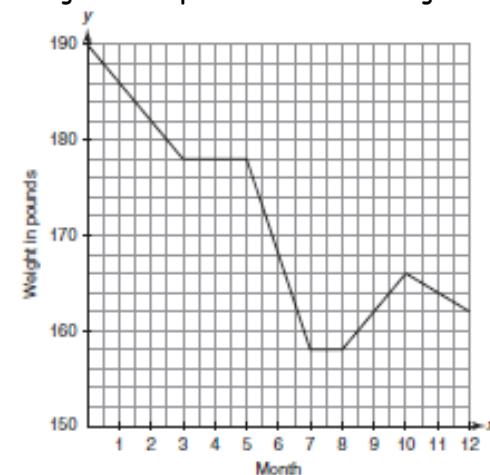
141.

142. Draw a graph that does NOT represent a function and explain your answer.



Answer the questions about the graph to the right that represents a dieter's weight loss over a year's period.

143. Describe what happens between months 3 and 5.
144. Circle where the graph increases and interpret the meaning.
145. During which months did the dieter lose weight the fastest?
146. What is the rate of change that occurs between months 10 and 12?



147. How many dots will be in figure 12?



RADICALS: Simplify each expression

148. $2\sqrt{3} + \sqrt{27}$ 149. $\sqrt{54} - \sqrt{150}$ 150. $\sqrt{6} \cdot \sqrt{8}$

151. Identify the parts of the expression $5x^4$ as either the base, coefficient, or exponent.

EXPONENTS: Simplify each expression

152. $(m^4)^2$

153. $(2x^3y)^4$

154. $(-4x^2)^3$

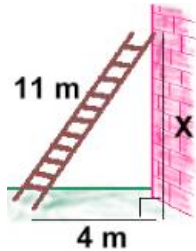
155. $\frac{4n^8}{2n^{10}}$

156. $a^{-3}b^{-2}$

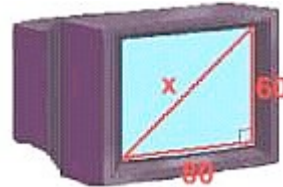
157. $\frac{1}{2x^{-5}}$

158. $\frac{(x^2y^{-4}) \cdot (xy)}{x^5y^2}$

159. How far up a wall will an 11m ladder reach, if the foot of the ladder must be 4m from the base of the wall?



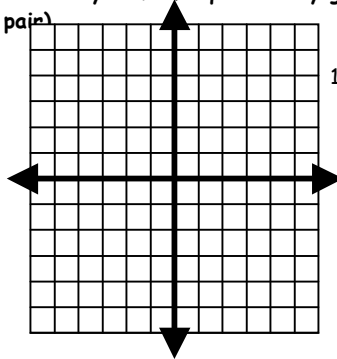
160. What is the diagonal length of a TV screen whose dimensions are 80 x 60 cm?



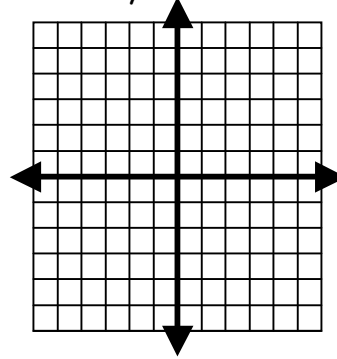
161. How long is the hypotenuse, if two sides of a right triangle are 3 and 4?

SYSTEMS: Solve the system of equations by graphing (remember to write your answer as an ordered pair)

162. $\begin{cases} y = -4 \\ y = 2x \end{cases}$



163. $\begin{cases} x = 4 \\ y = \frac{1}{2}x - 2 \end{cases}$



Solve the system of equations using the substitution method

164. $\begin{cases} 9x + y = 16 \\ y = 7x \end{cases}$

165. $\begin{cases} 2x + 4y = -32 \\ -3x + y = 6 \end{cases}$

Solve the system of equations using the elimination method.

166. $\begin{cases} x + y = 97 \\ x - y = 39 \end{cases}$

167. $\begin{cases} -2x - 5y = 49 \\ 4x + 3y = 35 \end{cases}$

Choose the best method, then solve the following systems.

168. $\begin{cases} y = 2x + 9 \\ 3x + 2y = 4 \end{cases}$

169. $\begin{cases} 7x + 3y = 25 \\ 2x - 4y = 12 \end{cases}$

170. $\begin{cases} 5x - 2y = 10 \\ 4y + 20 = 10x \end{cases}$

171. Write an algebraic expression for the situation. Define the variable, then evaluate the expression for the amount given. Andrea wants to buy a photo book from an online photo printing service. The book costs \$14.98 plus \$0.39 for each photo printed in the book. How much will she pay if she wants to have 35 photos in the book?

PARALLEL LINES AND TRANSVERSALS:

If $m \parallel n \parallel o$ and p is a transversal, find the following.

172. State a pair of corresponding angles:

173. State a pair of alternate interior angles:

174. State a pair of alternate exterior angles:

175. State a pair of same-side interior angles:

176. State a pair of corresponding angles:

177. State a pair of vertical angles:

178. State a pair of supplementary angles:

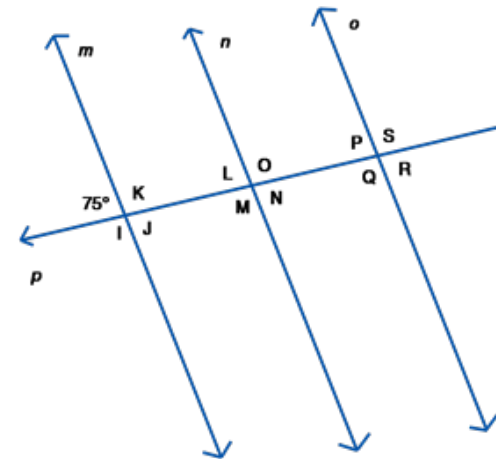
179. What is the measurement of angle L?

180. What is the measurement of angle M?

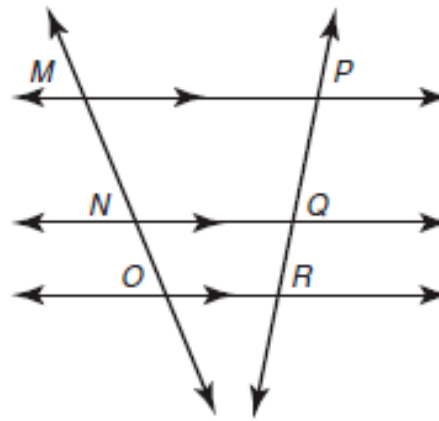
181. What is the measurement of angle S?

182. If the $m\angle J$ is $2x$, what is x ?

183. If the $m\angle K$ is $4y - 7$, what is y ?



184. Given: $\overrightarrow{MP} \parallel \overrightarrow{NQ} \parallel \overrightarrow{OR}$ with transversals \overrightarrow{MO} and \overrightarrow{PR} .



a. Complete the proportion: $\frac{MN}{PQ} = \frac{?}{?}$.

b. If $MN = 7$, $PQ = 5$, and $NO = 3.5$, calculate QR .

185. Write down at least three questions you have for me about this math class.

186. Write down three questions you have about what to expect in high school.

187. Write down three goals you want to achieve your freshman year of high school.

188. Write down three goals (different from above) you want to achieve by the time you graduate high school.

Define the following terms and provide an example for each.

- | | | |
|-----------------------------------|-----------------------------------|-----------------------------------|
| a. Variable | b. rational numbers | c. irrational numbers |
| d. real numbers | e. integers | f. at most |
| g. at least | h. function | i. recursive formula |
| j. average rate of change | k. Pythagorean Theorem | l. hypotenuse |
| m. parallel lines | n. transversal | o. supplementary \angle 's |
| p. complementary angles | q. corresponding \angle 's | r. alternate interior \angle 's |
| s. alternate exterior \angle 's | t. same-side interior \angle 's | u. vertical angles |

Resources:

Systems:

<http://cstl.syr.edu/fipse/algebra/unit5/subst.htm>

<http://www.brightstorm.com/math/algebra/solving-systems-of-equations/solving-systems-of-equations-using-elimination/#>

Solving equations:

<http://regentsprep.org/Regents/math/ALGEBRA/AE2/LSolvEq.htm>

Functions:

<http://regentsprep.org/Regents/math/ALGEBRA/AP3/LFunction.htm>

Radicals:

<http://regentsprep.org/Regents/math/ALGEBRA/AO1/Laddsubt.htm>

Exponents:

<http://www.coolmath.com/algebra/01-exponents/06-exponent-rules-putting-rules-1-4-together-01.htm>

Linear equations:

<http://www.coolmath.com/algebra/08-lines/06-finding-slope-line-given-two-points-01.htm>

Parallel Lines and Transversals:

<http://www.studyzone.org/mtestprep/math8/g/8parallelanglepairs1.cfm>

Pythagorean Theorem:

<http://www.mathsisfun.com/pythagoras.html>