Math 80 Exam 2 (Chapters 3 and 4)

Name_____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

3 points each

Express the statement as an algebraic expression.

1) Alexander is t years old. Write an expression that represents Benjamin's age if he is 6 times as old as Alexander. 1) _____

A) 6t + t B) 6 + t C) 6t D) $\frac{6}{t}$

Select a variable to represent one quantity and state what that variable represents. Express the second quantity in terms of the variable selected.

2) The average time it takes to get through a check–out line at a large wholesale club is 11 minutes more than 4 times the time it takes to get through a check–out line at a small grocery store, s. 2) _____

A) let s = time at small store, then (11 + 4)s = time at large club

B) let s = time at small store, then 4s + 11 = time at large club

C) let s = time at small store, then 11s + 4 = time at large club

D) let s = time at small store, then 11•4 + s = time at large club

Write an equation to represent the problem.

3) Jennifer Park's 2007 income was 7.9% greater than her 2006 income. Her income in 2007 was $76,600. Let i represent 2006 income. 3) _____

A) i + 0.079•76,600 = 76,600 B) 2i + 0.079i = 76,600

C) i – 0.079i = 76,600 D) i + 0.079i = 76,600

Set up an equation that can be used to solve the problem. Solve the equation and answer the question asked.

4) When Milo got promoted at work, he received a 5% pay raise. He now earns $71,400 per year. What was his annual salary before his raise? 4) _____

A) $68,000 B) $71,400 C) $3570 D) $3400

Solve the problem.

5) The length of a rectangular storage room is 4 feet longer than its width. What are the dimensions of the room if the area of the room is 77 square feet? 5) _____

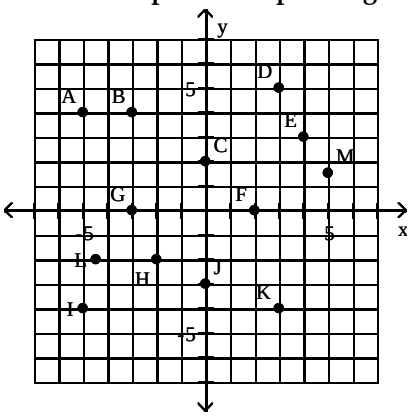
A) 6 ft by 12 ft B) 8 ft by 12 ft C) 7 ft by 11 ft D) 6 ft by 10 ft

Set up an equation that can be used to solve the problem. Solve the equation and answer the question asked.

6) Train A leaves a station traveling at 32 km/h. Two hours later, train B leaves the same station traveling in the same direction at 52 km/h. How long does it takes train B to catch up to train A? 6) _____

A) 4.2 hours B) 2.2 hours C) 3.2 hours D) 5.2 hours

List the ordered pair corresponding to the point.



7) B 7) _____

A) (4, –3) B) (3, 4) C) (4, 3) D) (–3, 4)

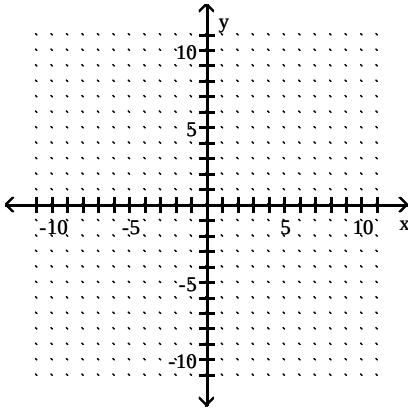
Indicate whether the distinct lines, line 1 and line 2 are parallel, perpendicular, or neither.

8) $m_1 = \frac{5}{8}$, $m_2 = \frac{8}{5}$ 8) _____

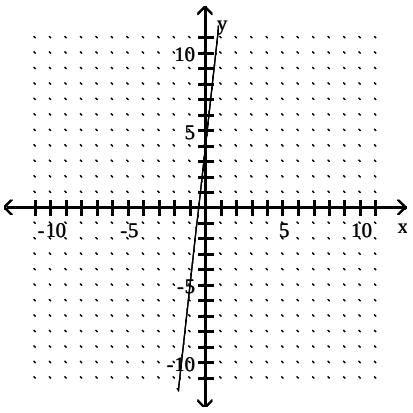
A) parallel B) perpendicular C) neither

Graph by plotting points. Plot at least three points for the graph.

9) 5y – 45x = 20 9) _____



A)



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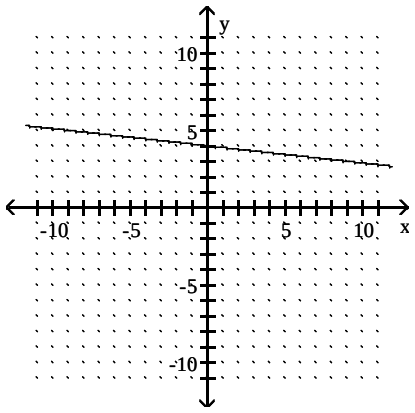
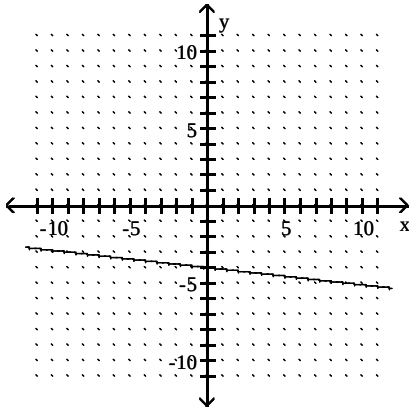
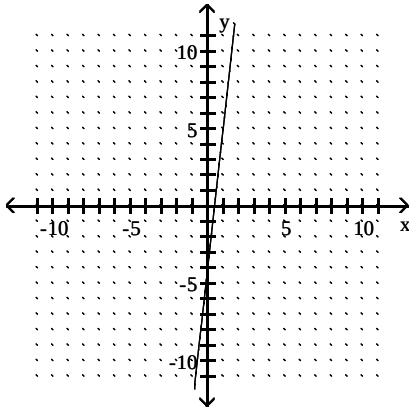


C)

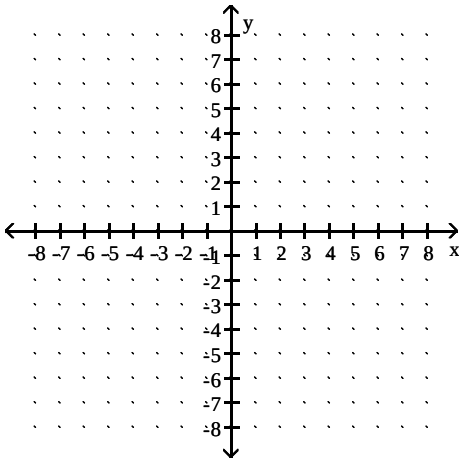


D)

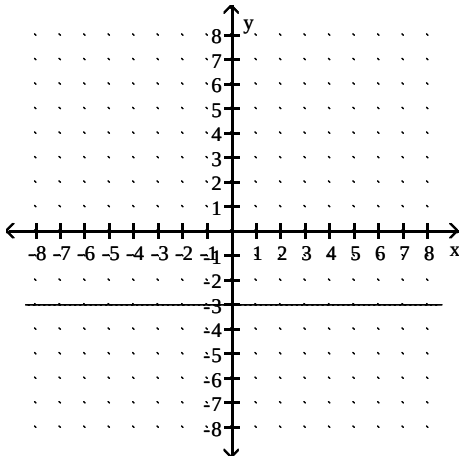


Graph the equation.

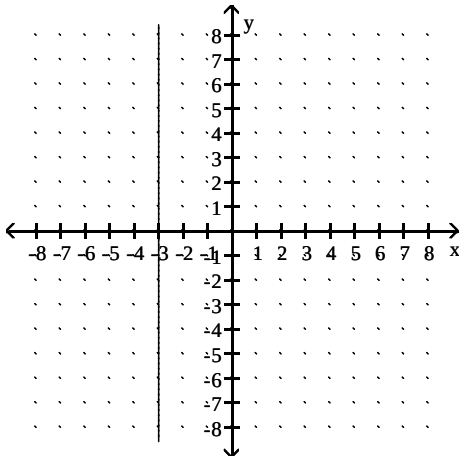
10) y = –3 10) _____



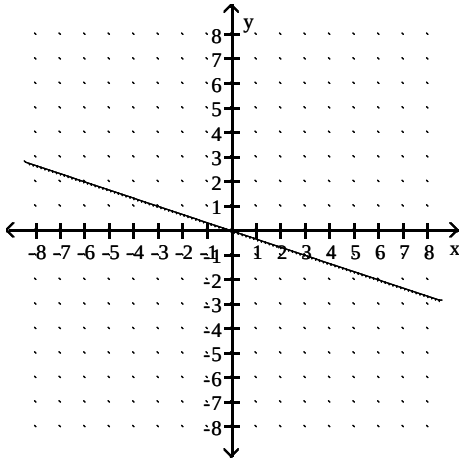
A)



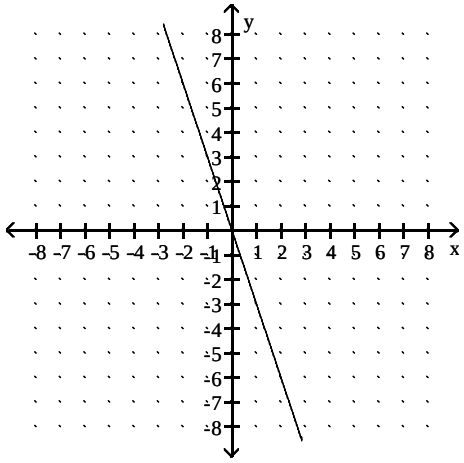
B)



C)



D)



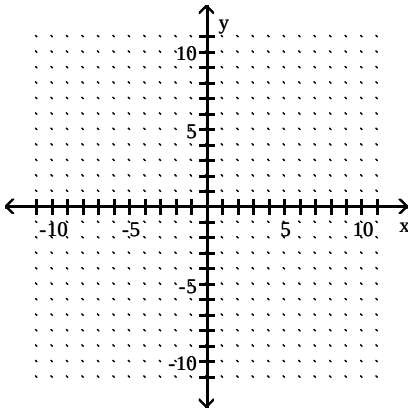
Find the slope of the line through the given points.

11) (6, 9) and (1, 6) 11) _____

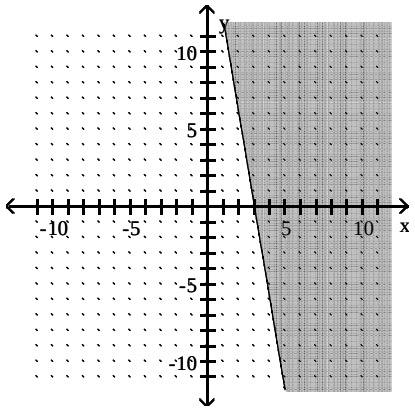
A) $m = -\frac{3}{5}$ B) $m = \frac{5}{3}$ C) $m = \frac{15}{7}$ D) $m = \frac{3}{5}$

Graph the inequality.

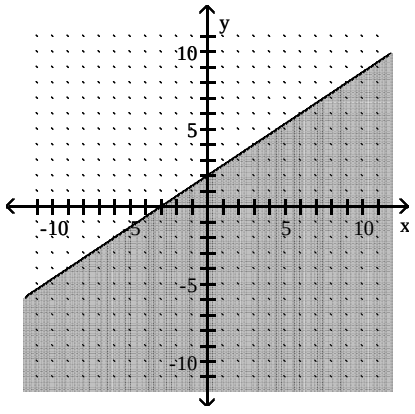
12) $2x + 3y \leq 6$ 12) _____



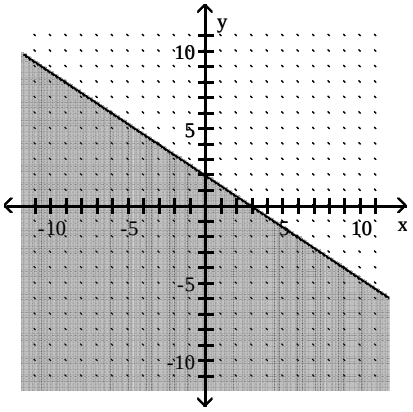
A)



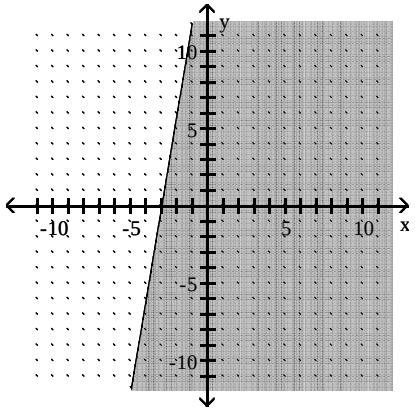
B)



C)

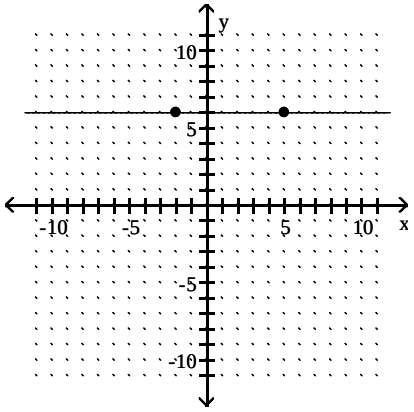


D)



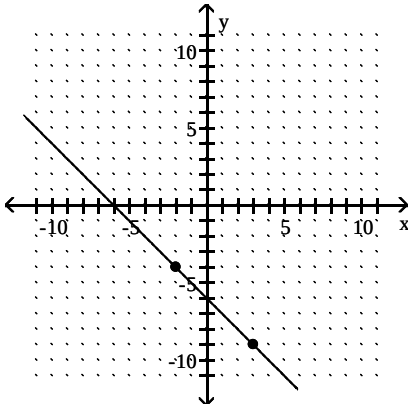
By observing the vertical and horizontal change of the line between the two points indicated, determine the slope of the line.

13) 13) _____



A) m = 2 B) m = 6 C) m = 0 D) undefined

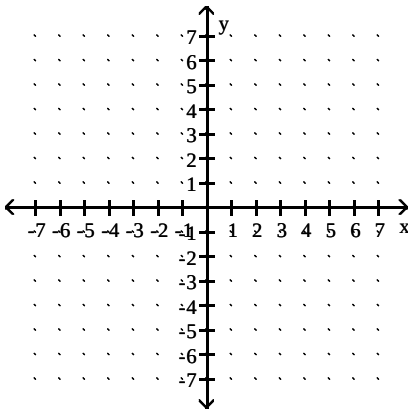
14) 14) _____



A) m = –6 B) m = –1 C) m = 6 D) m = 1

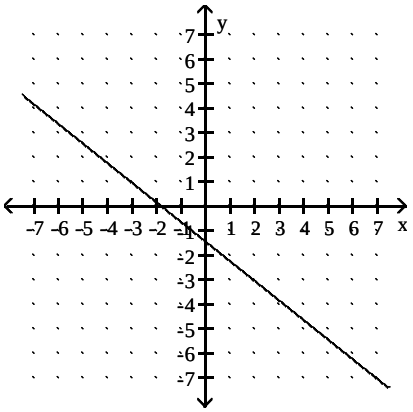
Determine the slope and y–intercept of the line represented by the equation. Graph the line using the slope and y–intercept.

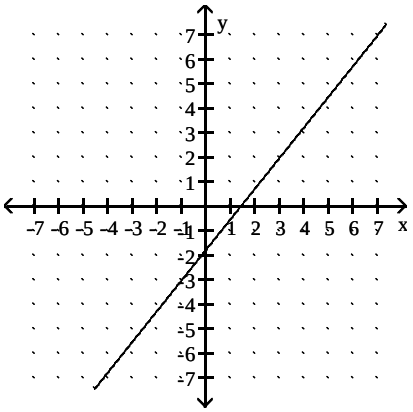
15) $4x - 5y = -7$ 15) _____



A) m = $-\frac{4}{5}$, y–intercept is $(0, -\frac{7}{5})$

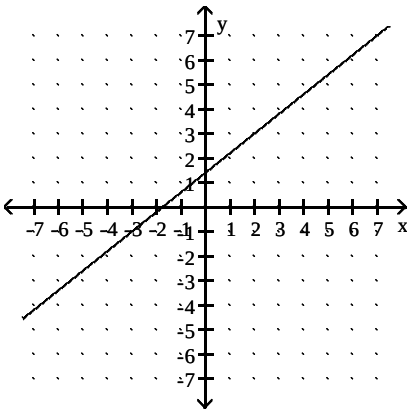
B) m = $\frac{5}{4}$, y–intercept is $(0, -\frac{7}{4})$

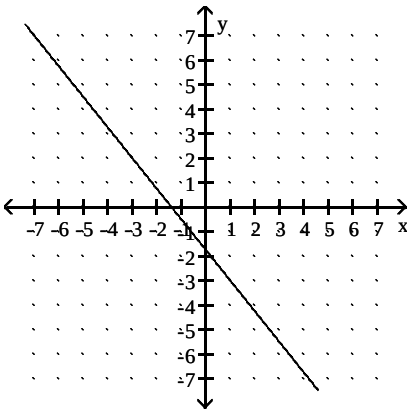




C) m = $\frac{4}{5}$, y–intercept is $(0, \frac{7}{5})$

D) m = $-\frac{4}{5}$, y–intercept is $(0, \frac{7}{5})$





SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

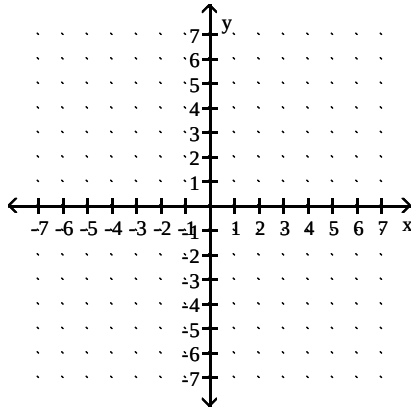
Free Response: Include all important steps in arriving at your answer. Please circle your final answer

Express the statement as an algebraic expression.

16) 23 less than the product of 9 and a number 16) _____

Graph by plotting points. Plot at least three points for the graph.

17) $y = -\frac{3}{5}x + 3$ 17) _____

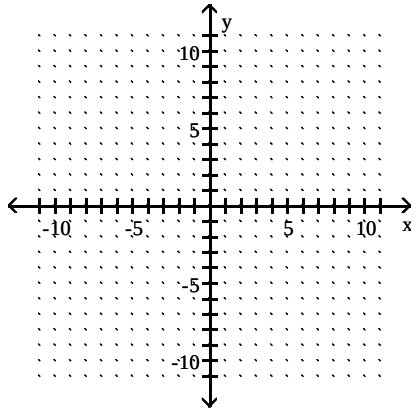


Solve the problem.

18) The perimeter of a rectangular room is 136 feet. Find the length and width of the room if the length is 2 feet longer than twice the width. 18) _____

Graph using the x– and y–intercepts.

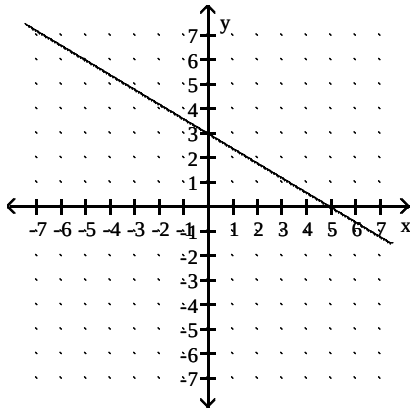
19) $y + \frac{1}{4}x = 2$ 19) _____



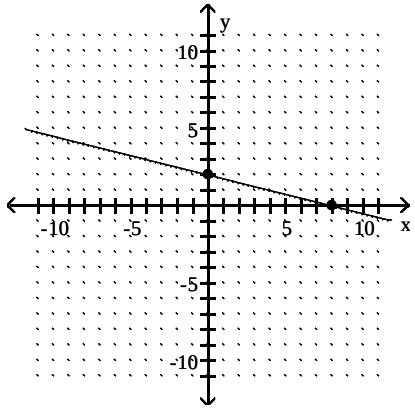
Write the equation of the line, with the given properties, in slope–intercept form.

20) Slope = 4, through (–5, 6) 20) _____

1) C
2) B
3) D
4) A
5) C
6) D
7) D
8) C
9) A
10) A
11) D
12) C
13) C
14) B
15) C
16) 9x – 23
17)



18) w = 22 ft; l = 46 ft
19)



20) y = 4x + 26