Math 80   Exam 2 (Chapters 3 and 4)

Name_____

3 points each

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

Express the statement as an algebraic expression.

1) Sam Roberts used to type p words per minute. After taking an advanced typing course, his speed increased by 30 words per minute. Write an expression that represents his new typing speed.

A) 30p   B) 30p + p   C) p + 30   D) $\frac{30}{p}$

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

2) Last year, Rebecca received a grant of g dollars for school. This year she received $9000 plus seven-eighths of last year's amount.

A) let g = old grant amount, then $\frac{7}{8}$9000 + 9000g = new grant amount

B) let $\frac{7}{8}$ + 9000g = old grant amount, then g = new grant amount

C) let $\frac{7}{8}$9000 + g = old grant amount, then g = new grant amount

D) let g = old grant amount, then $\frac{7}{8}$g + 9000 = new grant amount

Write an equation to represent the problem.

3) Lauren Wolf purchased a dress at a 30% off sale. She paid $105 for the dress. Let p represent the price of the dress.

A) p + 0.3p = 105   B) 0.3p - p = 105   C) p - 0.3p = 105   D) p - 0.3 = 105

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

4) After a 9% price reduction, a boat sold for $29,120. What was the boat's price before the reduction? (Round to the nearest cent, if necessary.)

A) $323,555.56   B) $31,740.80   C) $2620.80   D) $32,000

Solve the problem.

5) 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.

A) w = 22 ft; l = 46 ft   B) w = 44 ft; l = 92 ft

C) w = 27 ft; l = 56 ft   D) w = 33 ft; l = 35 ft

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

6) During a hurricane evacuation from the east coast of Georgia, a family traveled 210 miles west. For part of the trip, they averaged 60 mph, but as the congestion got bad, they had to slow to 20 mph. If the total time of travel was 6 hours, how many miles did they drive at the reduced speed?

A) 70 miles   B) 75 miles   C) 85 miles   D) 80 miles

List the ordered pair corresponding to the point.
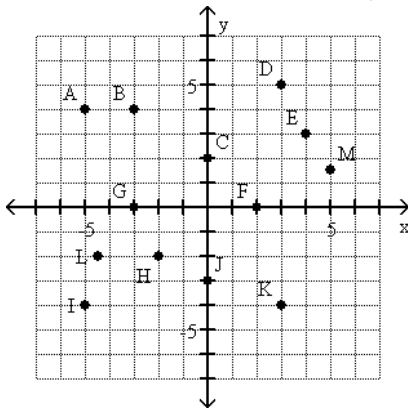
7) B

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

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

8) $m_1 = -\dfrac{4}{7}, m_2 = -\dfrac{4}{7}$
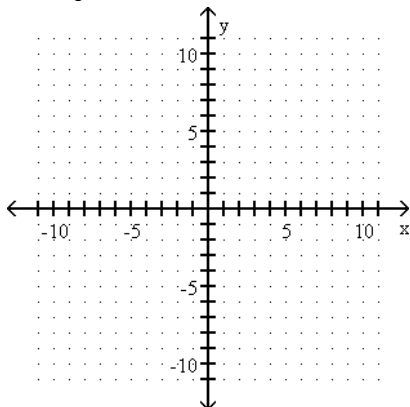
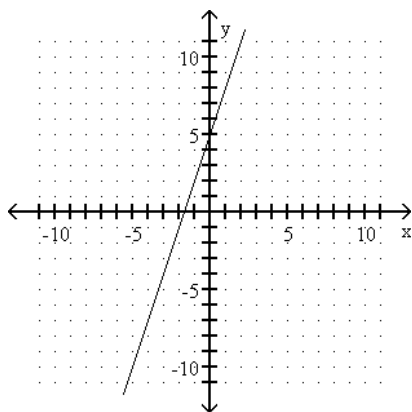A) parallel   B) perpendicular   C) neither
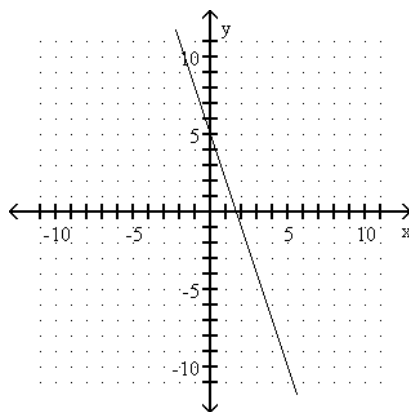
Graph by plotting points. Plot at least three points for the graph.
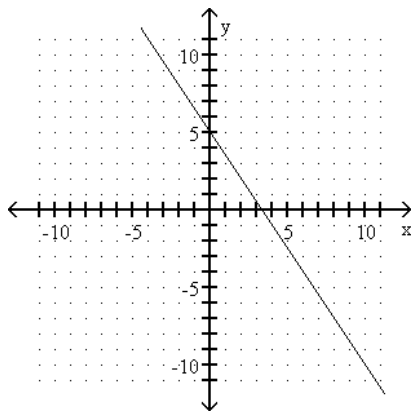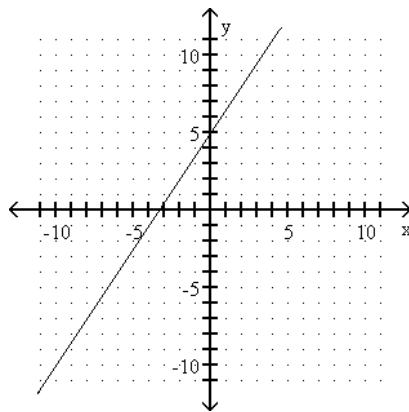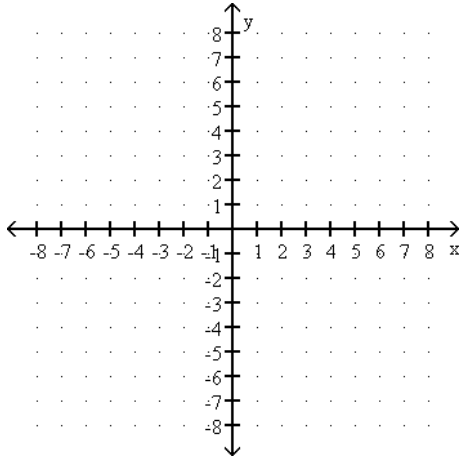
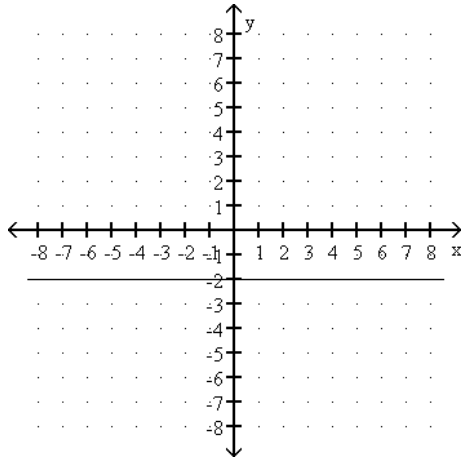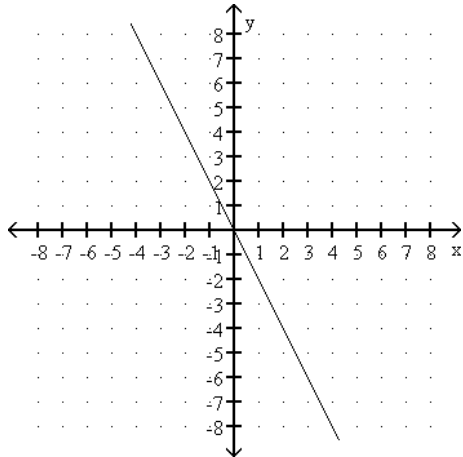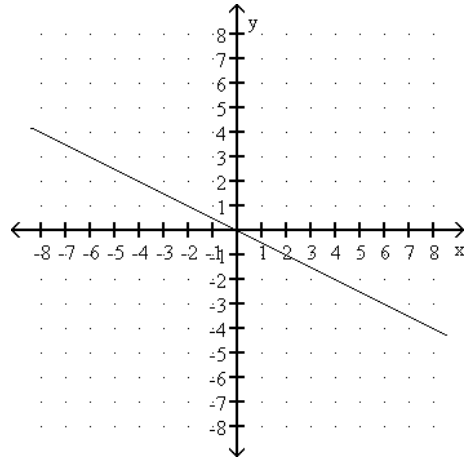9) $3x + 2y = 10$

A)

B)

C)

D)

3

Graph the equation.

10) $x = -2$

A)

B)
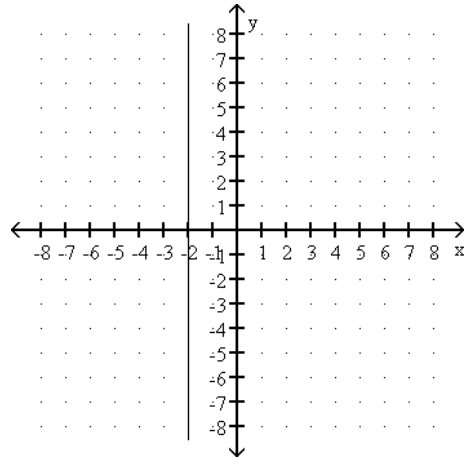
C)

D)

Find the slope of the line through the given points.

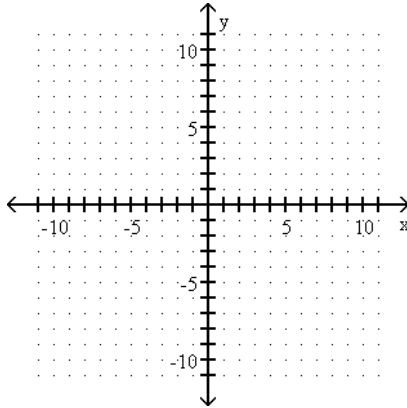11) (-5, -14) and (4, -17)

A) $m = -\dfrac{1}{3}$ 　　　　B) $m = 31$ 　　　　C) $m = -3$ 　　　　D) $m = \dfrac{1}{3}$
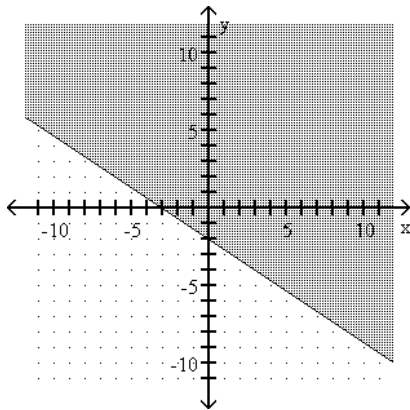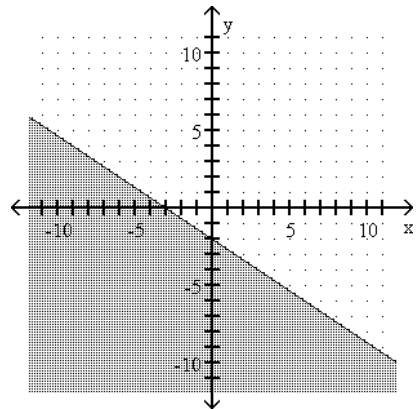
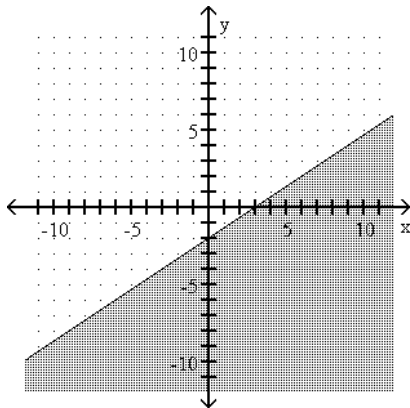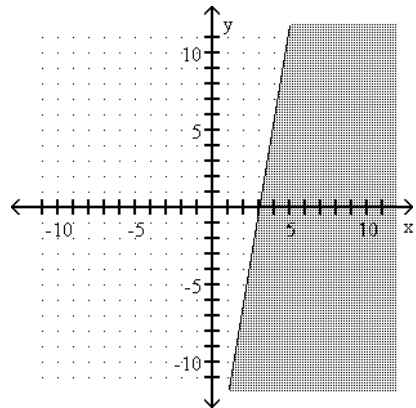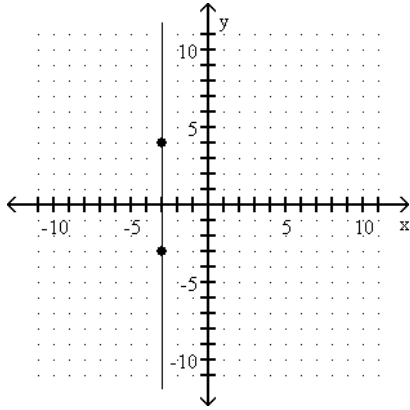Graph the inequality.

12) $-2x - 3y \le 6$

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.
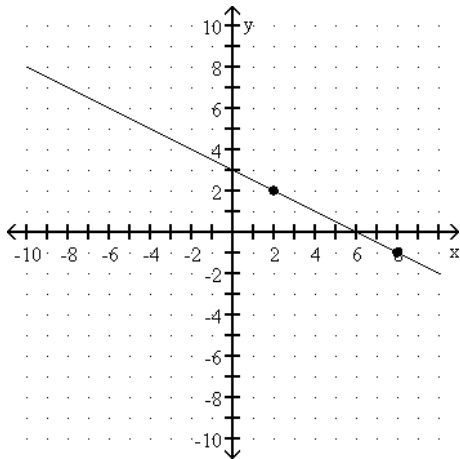
13)

A) m = 0   B) m = -3   C) m = 3   D) undefined

14)

A) m = 2   B) $m = -\frac{1}{2}$ C) m = - 2   D) $m = \frac{1}{2}$

Determine the slope and y-intercept of the line represented by the given equation.

15) 4x - 6y = 24

A) m = 4; y-intercept is (0, 24)   B) $m = \frac{3}{2}$; y-intercept is (0, 6)

C) $m = \frac{2}{3}$; y-intercept is (0, -4)   D) $m = -\frac{2}{3}$; y-intercept is (0, 4)
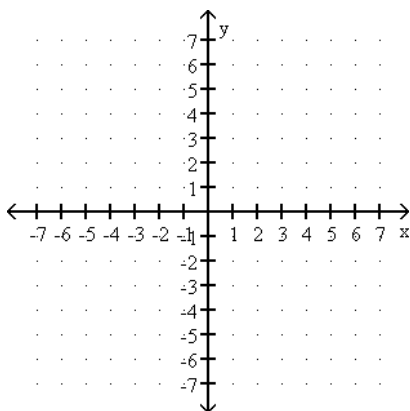
Free Response: Include all important steps in arriving at your answer. Please circle your final answer.

Express the statement as an algebraic expression.

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

Graph: (Show some evidence of your method)
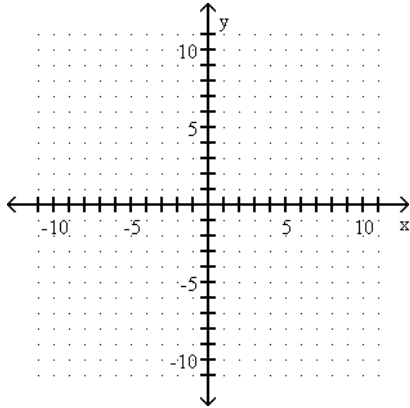
17) $y = \frac{3}{5}x - 3$

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

18) The perimeter of a rectangular room is 154 feet. Find the length and width of the room if the length is 5 feet longer than twice the width.

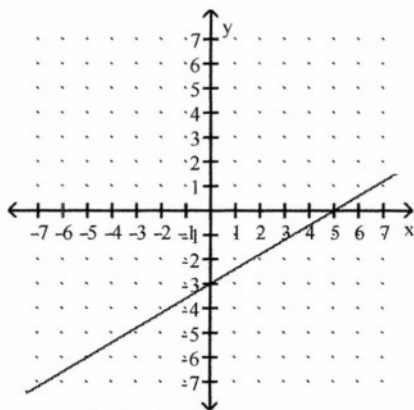Graph using the x- and y-intercepts.

19) 2x - 12y = 12

Write the equation of the line, with the given properties, in slope-intercept form.
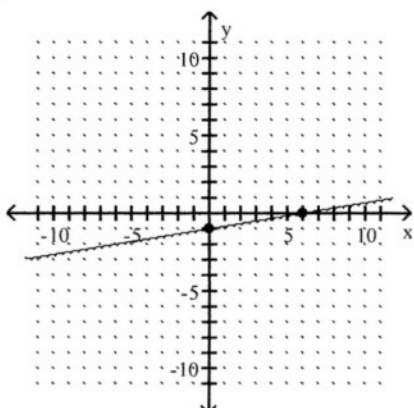
20) Slope = 4, through (6, 7)

1) C

2) D

3) C

4) D

5) A

6) B

7) C

8) A

9) C

10) B

11) A

12) A

13) D

14) B

15) C

16) $9x - 23$

17)

18) w = 24 ft; l = 53 ft

19)

20) $y = 4x - 17$