

MATH 115 (ELEMENTARY ALGEBRA) SAMPLE TEST CHAPTERS 3, 8.1- 8.2
INSTRUCTOR: ANNE SISWANTO; TOTAL POINTS: 100; TIME: 70 MINUTES.

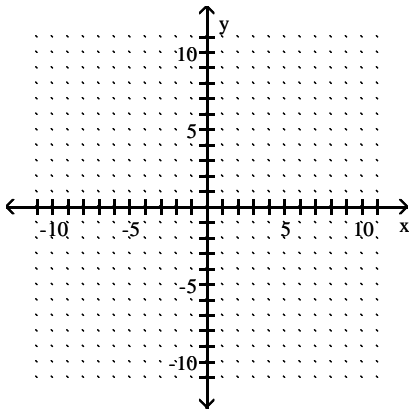
Direction: No graphing calculator is allowed during test. Please write your answer in the answer blanks and show all work to get full credits.

The sample test contains more problems than the actual test for more practice.

Graph the equation.

1) $y = -\frac{1}{6}x$

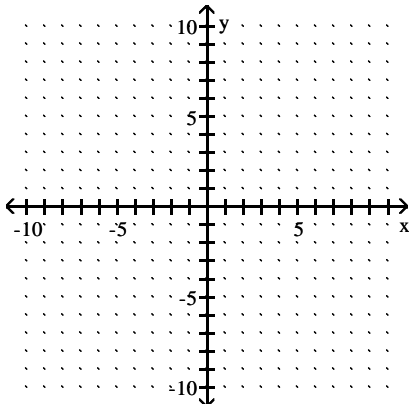
1) _____



Graph using the x- and y-intercepts.

2) $2x - 3y = 18$

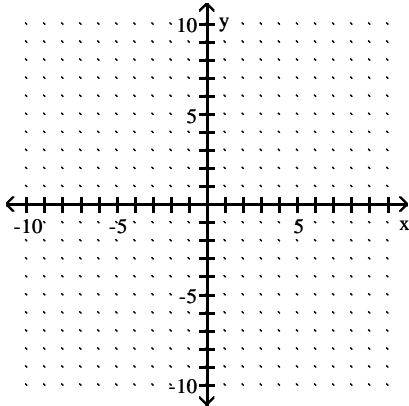
2) _____



Determine the slope and the y-intercept. Then graph the equation.

3) $y = -3x + 6$

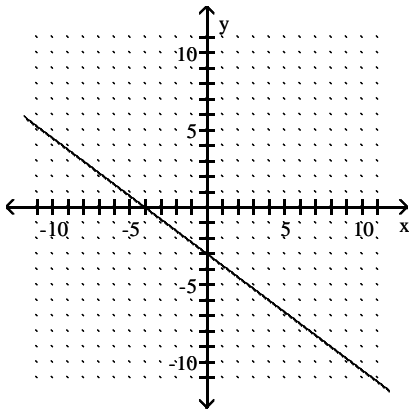
3) _____



Write the equation of the line in slope-intercept form.

4)

4) _____



Write the equation of the line in slope-intercept form given the slope and the coordinates of the y-intercept.

5) $m = -\frac{3}{2}$; (0, 6)

5) _____

Write the equation of a line in slope-intercept form with the given slope passing through the given point.

6) $m = -6$; (2, 2)

6) _____

Write the equation of the line in slope-intercept form.

7) $(3, 2), (0, -2)$

7) _____

Write the equation of a line connecting the given points in slope-intercept form.

8) $(8, 0), (6, -3)$

8) _____

Write the equation of a line that passes through the given point and is parallel to the given line. Write the equation in slope-intercept form and in the form of $Ax + By = C$, where $A, B,$ and C are integers and $A > 0$.

9) $(1, -5); y = 2x - 7$

9) _____

Write the equation of a line that passes through the given point and is perpendicular to the given line. Write the equation in slope-intercept form and in the form of $Ax + By = C$, where A , B , and C are integers and $A > 0$.

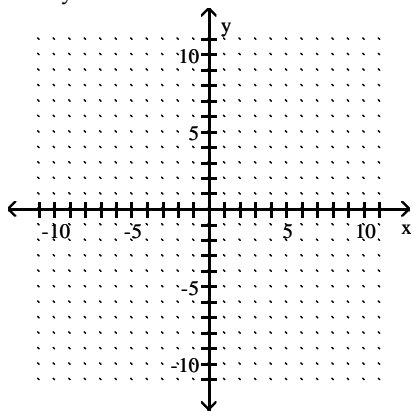
10) $(-4, -6)$; $y = \frac{1}{3}x + 11$

10) _____

Graph the linear inequality.

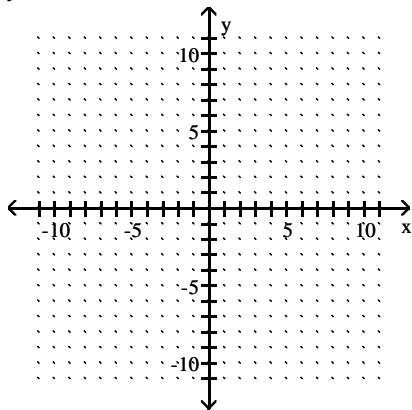
11) $3x + y \leq -6$

11) _____



12) $y < -5x + 1$

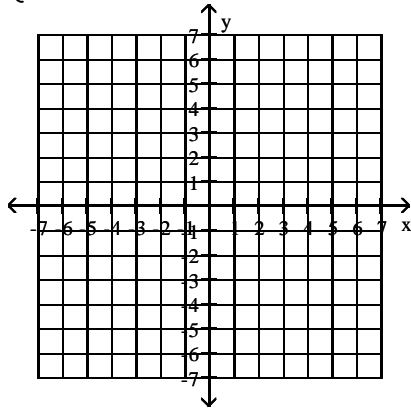
12) _____



Solve the system graphically.

13)

$$\begin{cases} 3x + y = 5 \\ x + 2y = 5 \end{cases}$$



13) _____

Solve the system of equations using substitution.

14)

$$\begin{cases} y = 2x - 5 \\ 3x + y = -10 \end{cases}$$

14) _____

Solve the system of equations using substitution. Note that the system may be inconsistent or consistent with dependent equations.

15)

$$\begin{cases} x + 6y = -6 \\ 8x + 7y = -48 \end{cases}$$

15) _____

Translate the problem to a system of equations, then solve.

16) Gloria collected 19 fantail and comet goldfish. There were 3 fewer fantails than comets. How many comets did Gloria have? 16) _____

17) The perimeter of a rectangle is 28 cm. One side is 10 cm longer than the other side. Find the lengths of the sides. 17) _____

Solve the system of equations using the elimination method.

18)

$$\begin{cases} 8x + 8y = -48 \\ 3x + 2y = -18 \end{cases}$$

18) _____

19)

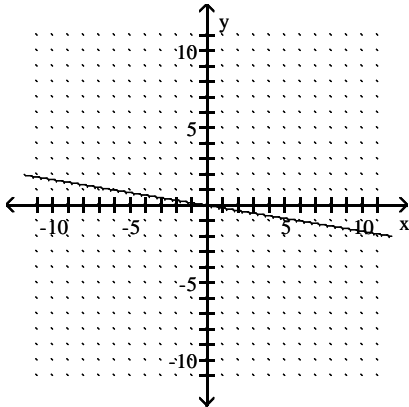
$$\begin{cases} \frac{1}{5}x - \frac{1}{4}y = 3 \\ \frac{2}{5}x + \frac{1}{2}y = 2 \end{cases}$$

19) _____

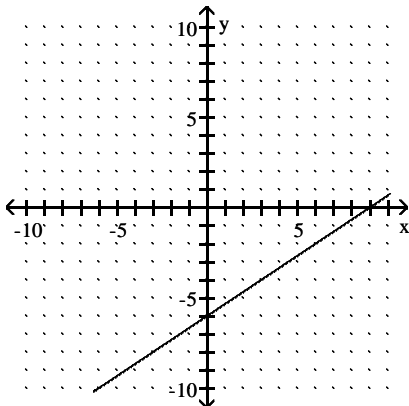
Answer Key

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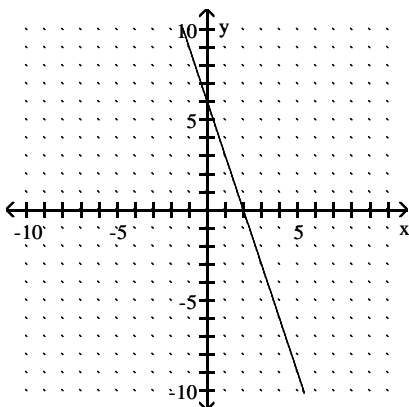
1)



2)



3) $m = -3$, y-intercept: $(0, 6)$



4) $y = -\frac{3}{4}x - 3$

5) $y = -\frac{3}{2}x + 6$

6) $y = -6x + 14$

7) $y = \frac{4}{3}x - 2$

Answer Key

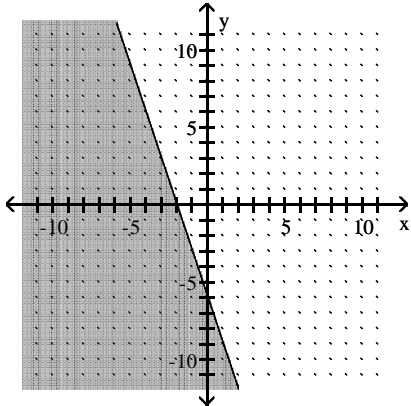
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8) $y = \frac{3}{2}x - 12$

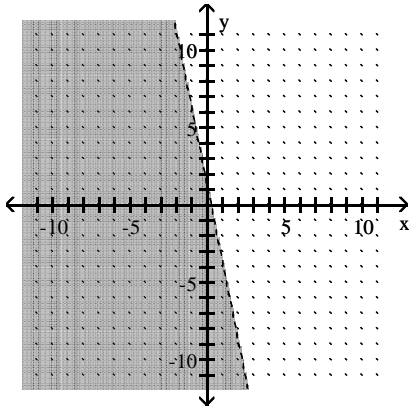
9) $y = 2x - 7$
 $2x - y = 7$

10) $y = -3x - 18$
 $3x + y = -18$

11)



12)



13) (1, 2)

14) (-1, -7)

15) (-6, 0)

16) 11 comets

17) 2 cm, 12 cm

18) (-6, 0)

19) (10, -4)