

Name \_\_\_\_\_

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

Solve the equation.

1)  $4x - 5 + 7(x + 1) = 6x + 7$

- A)  $\left\{\frac{5}{4}\right\}$                       B)  $\{1\}$                       C)  $\{-1\}$                       D)  $\left\{-\frac{5}{4}\right\}$

1) \_\_\_\_\_

Write the number as the product of a real number and i.

2)  $\sqrt{-16}$

- A)  $4i$                       B)  $-4i$                       C)  $i\sqrt{16}$                       D)  $4$

2) \_\_\_\_\_

Solve the equation by the zero-factor property.

3)  $2x^2 = 18x - 36$

- A)  $\{6, 12\}$                       B)  $\{3, 6\}$                       C)  $\{-6, -3\}$                       D)  $\{-6, 3\}$

3) \_\_\_\_\_

Solve the equation using the quadratic formula.

4)  $3x^2 + 6x = -1$

- A)  $\left\{\frac{-3 \pm \sqrt{3}}{3}\right\}$                       B)  $\left\{\frac{-3 \pm \sqrt{6}}{3}\right\}$                       C)  $\left\{\frac{-6 \pm \sqrt{6}}{3}\right\}$                       D)  $\left\{\frac{-3 \pm \sqrt{6}}{6}\right\}$

4) \_\_\_\_\_

Solve the equation.

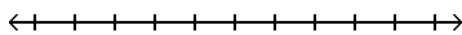
5)  $4\sqrt{x} = \sqrt{9x + 9}$

- A)  $\left\{-\frac{9}{8}\right\}$                       B)  $\left\{\frac{9}{7}\right\}$                       C)  $\left\{-\frac{9}{5}\right\}$                       D)  $\left\{\frac{9}{25}\right\}$

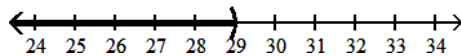
5) \_\_\_\_\_

Solve and graph the inequality. Give answer in interval notation.

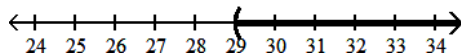
6)  $-6x + 12 > -7x + 17$



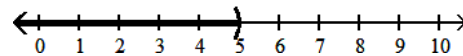
- A)  $(-\infty, 29)$



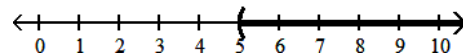
- C)  $(29, \infty)$



- B)  $(-\infty, 5)$

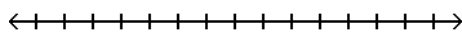


- D)  $(5, \infty)$

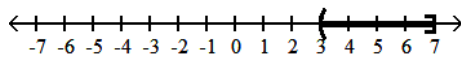


6) \_\_\_\_\_

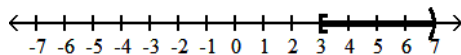
7)  $15 < 4x + 3 \leq 31$



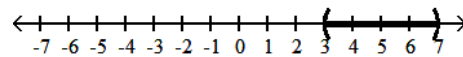
- A)  $(3, 7]$



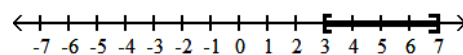
- C)  $[3, 7)$



- B)  $(3, 7)$



- D)  $[3, 7]$



7) \_\_\_\_\_

Solve the equation.

8)  $|3x + 2| = |10x + 3|$

A)  $\left\{-\frac{1}{7}, -\frac{5}{13}\right\}$

B)  $\left\{\frac{5}{7}, 1\right\}$

C)  $\left\{-\frac{5}{7}, 1\right\}$

D)  $\left\{\frac{1}{13}, \frac{5}{7}\right\}$

8) \_\_\_\_\_

For the points P and Q, find the distance  $d(P, Q)$ .

9) P(4, -1), Q(6, -7)

A)  $2\sqrt{10}$

B) 8

C) 32

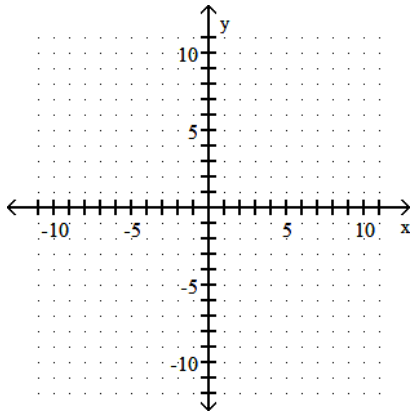
D)  $32\sqrt{2}$

9) \_\_\_\_\_

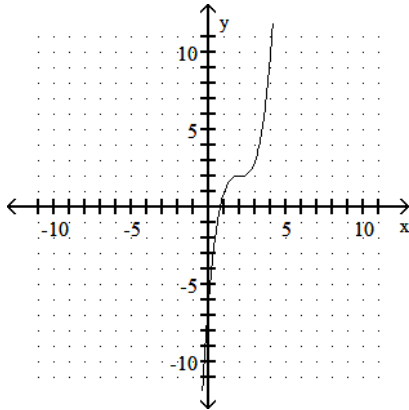
Graph the equation by plotting points.

10)  $y = x^3 + 2$

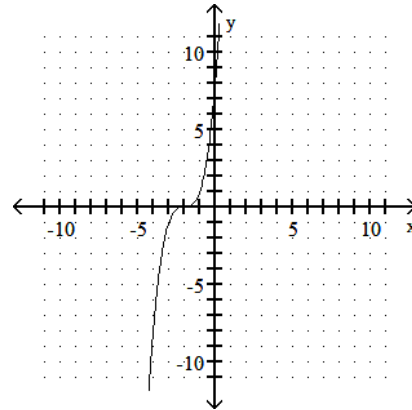
10) \_\_\_\_\_



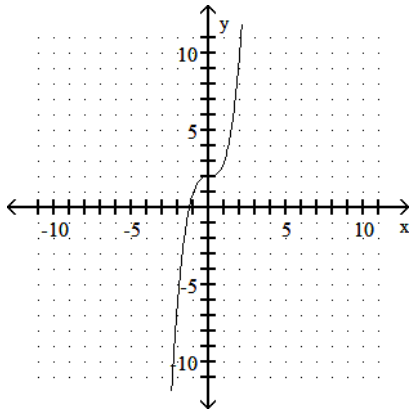
A)



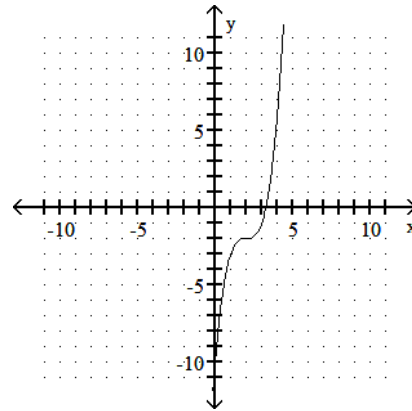
B)



C)



D)



Find the center-radius form of the equation of the circle.

11) center  $(-6, -4)$ , radius 3

A)  $(x - 6)^2 + (y - 4)^2 = 9$

C)  $(x + 4)^2 + (y + 6)^2 = 3$

B)  $(x + 6)^2 + (y + 4)^2 = 9$

D)  $(x - 4)^2 + (y - 6)^2 = 3$

11) \_\_\_\_\_

Find the center and radius of the circle.

12)  $x^2 + y^2 + 8x - 10y - 8 = 0$

A) center:  $(4, -5)$ ; radius: 49

C) center:  $(-5, 4)$ ; radius: 49

B) center:  $(5, -4)$ ; radius: 7

D) center:  $(-4, 5)$ ; radius: 7

12) \_\_\_\_\_

Write an equation for the line described. Give your answer in slope-intercept form.

13)  $m = -\frac{3}{5}$ , through  $(7, 6)$

A)  $y = -\frac{3}{5}x - \frac{51}{5}$

B)  $y = \frac{3}{5}x - \frac{51}{5}$

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

D)  $y = -\frac{3}{5}x + \frac{51}{5}$

13) \_\_\_\_\_

Find the slope and the y-intercept of the line.

14)  $3x - 5y = -5$

A) slope:  $\frac{5}{3}$ ; y-intercept:  $-1$

B) slope:  $\frac{3}{5}$ ; y-intercept:  $1$

C) slope:  $-\frac{3}{5}$ ; y-intercept:  $-1$

D) slope:  $-\frac{5}{3}$ ; y-intercept:  $1$

14) \_\_\_\_\_

Write an equation for the line described. Write the equation in the form specified.

15) perpendicular to  $-5x + y = 7$ , through  $(4, 3)$ ; slope-intercept form

A)  $y = -5x - 19$

B)  $y = \frac{1}{5}x - \frac{19}{5}$

C)  $y = -\frac{1}{5}x - \frac{19}{5}$

D)  $y = -\frac{1}{5}x + \frac{19}{5}$

15) \_\_\_\_\_

16) parallel to  $-6x + 5y = -87$ , through  $(7, -7)$ ; slope-intercept form

A)  $y = \frac{6}{5}x - \frac{77}{5}$

B)  $y = -\frac{7}{5}x - \frac{87}{5}$

C)  $y = \frac{5}{6}x + \frac{7}{6}$

D)  $y = -\frac{6}{5}x + \frac{77}{5}$

16) \_\_\_\_\_