

## Function Operations / Linear Function Test Review Date \_\_\_\_\_ Period \_\_\_\_\_

**Evaluate each function.**

1)  $p(a) = 2a - 4$ ; Find  $p(1)$

2)  $g(x) = x^2 + 5x$ ; Find  $g(3)$

3)  $p(x) = 4x + 2$ ; Find  $p(x^2)$

4)  $h(n) = 2n^3 + 3n^2$ ; Find  $h(n - 4)$

**Perform the indicated operation.**

5)  $g(n) = 4n - 5$   
 $h(n) = 2n^2 - 4n$   
Find  $(g - h)(n)$

6)  $g(n) = -4n - 1$   
 $f(n) = n^2 + 2n$   
Find  $(g \cdot f)(n)$

**Divide using Long Division**

7)  $(4r^3 - 25r^2 + 16r + 49) \div (4r - 9)$

**Divide using Synthetic Division**

8)  $(a^3 - 29a - 19) \div (a + 5)$

**Perform the indicated operation.**

9)  $h(n) = -2n + 5$   
 $g(n) = n^2 - 3$   
Find  $(2h - 3g)(n)$

10)  $h(n) = 4n - 3$   
 $g(n) = 2n - 2$   
Find  $(h \circ g)(n)$

Find the inverse of each function.

$$11) h(x) = \frac{-10 + 9x}{2}$$

$$12) g(x) = \sqrt[3]{\frac{x+2}{2}}$$

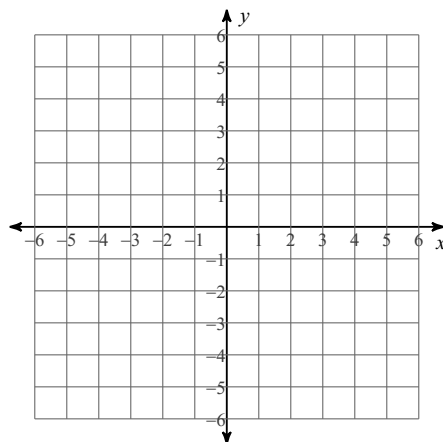
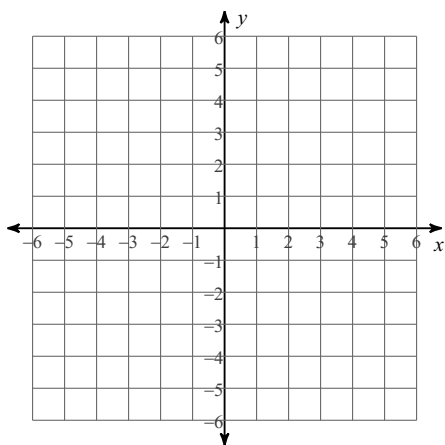
$$13) f(x) = (x-2)^3$$

$$14) g(x) = -2x - 4$$

Find the inverse of each function. Then graph the function and its inverse.

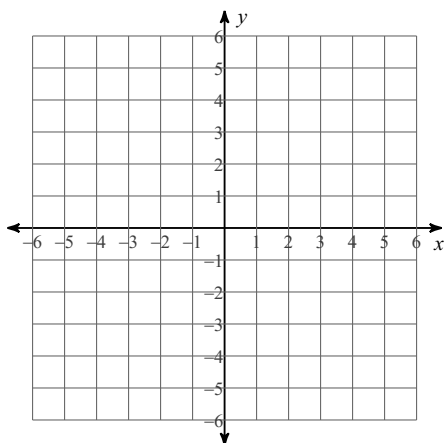
$$15) f(x) = -2x + 1$$

$$16) g(n) = \frac{-3n + 9}{7}$$

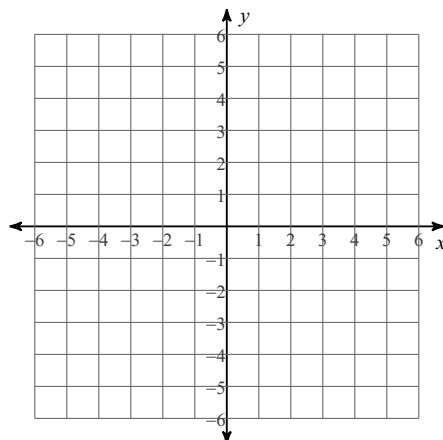


Sketch the graph of each line.

17)  $y = \frac{1}{2}x + 3$



18)  $4x - 3y = 15$



Write the point-slope form of the equation of the line through the given points.

19) through:  $(3, -2)$  and  $(-3, -3)$

Write the slope-intercept form of the equation of the line through the given points.

20) through:  $(-2, 4)$  and  $(-3, 5)$

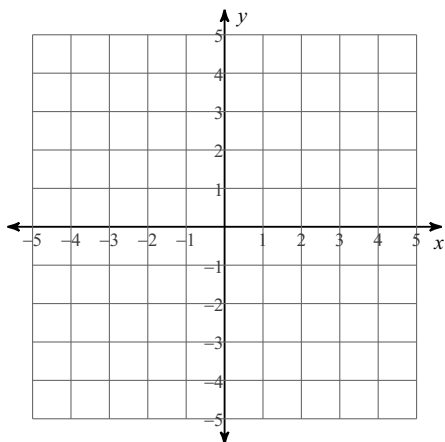
Write the slope-intercept form of the equation of the line described.

21) through:  $(4, -3)$ , parallel to  $y = 5x + 1$

22) through:  $(-4, 1)$ , perp. to  $y = \frac{2}{3}x - 3$

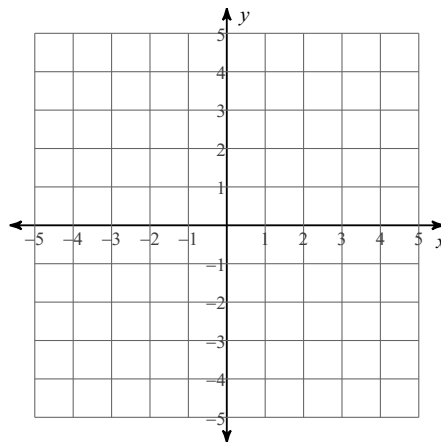
**Solve each system by graphing.**

23)  $5x - 4y = -4$   
 $x - 4y = 12$



**Sketch the solution to each system of inequalities.**

24)  $2x - y < 2$   
 $x - 2y \geq -2$



**Solve each system by substitution.**

25)  $y = x - 7$   
 $-x + 3y = -21$

26)  $2x - 2y = -8$   
 $-x + y = 4$

**Solve each system by elimination.**

27)  $-9x + 4y = 29$   
 $6x + y = -1$

28)  $-2x - 2y = -20$   
 $5x - 7y = -10$

**Solve each system.**

29)  $-4r + 5s + t = 10$   
 $-6r + s - 6t = 4$   
 $2s + 6t = -4$

## Function Operations / Linear Function Test Review

Date \_\_\_\_\_ Period \_\_\_\_\_

**Evaluate each function.**

1)  $p(a) = 2a - 4$ ; Find  $p(1)$

$-2$

2)  $g(x) = x^2 + 5x$ ; Find  $g(3)$

$24$

3)  $p(x) = 4x + 2$ ; Find  $p(x^2)$

$4x^2 + 2$

4)  $h(n) = 2n^3 + 3n^2$ ; Find  $h(n - 4)$

$2n^3 - 21n^2 + 72n - 80$

**Perform the indicated operation.**

5)  $g(n) = 4n - 5$   
 $h(n) = 2n^2 - 4n$   
Find  $(g - h)(n)$

$-2n^2 + 8n - 5$

6)  $g(n) = -4n - 1$   
 $f(n) = n^2 + 2n$   
Find  $(g \cdot f)(n)$

$-4n^3 - 9n^2 - 2n$

**Divide using Long Division**

7)  $(4r^3 - 25r^2 + 16r + 49) \div (4r - 9)$

$r^2 - 4r - 5 + \frac{4}{4r - 9}$

**Divide using Synthetic Division**

8)  $(a^3 - 29a - 19) \div (a + 5)$

$a^2 - 5a - 4 + \frac{1}{a + 5}$

**Perform the indicated operation.**

9)  $h(n) = -2n + 5$   
 $g(n) = n^2 - 3$   
Find  $(2h - 3g)(n)$

$-3n^2 - 4n + 19$

10)  $h(n) = 4n - 3$   
 $g(n) = 2n - 2$   
Find  $(h \circ g)(n)$

$8n - 11$

Find the inverse of each function.

$$11) h(x) = \frac{-10 + 9x}{2}$$

$$h^{-1}(x) = \frac{2x + 10}{9}$$

$$12) g(x) = \sqrt[3]{\frac{x + 2}{2}}$$

$$g^{-1}(x) = 2x^3 - 2$$

$$13) f(x) = (x - 2)^3$$

$$f^{-1}(x) = \sqrt[3]{x} + 2$$

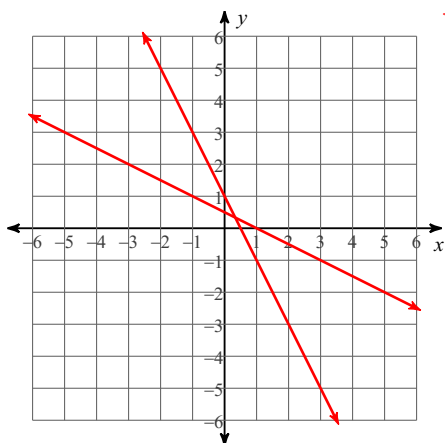
$$14) g(x) = -2x - 4$$

$$g^{-1}(x) = \frac{-4 - x}{2}$$

Find the inverse of each function. Then graph the function and its inverse.

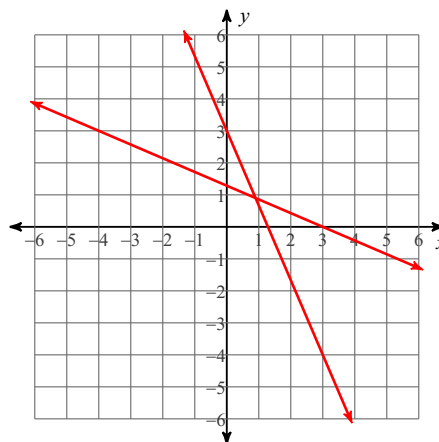
$$15) f(x) = -2x + 1$$

$$f^{-1}(x) = -\frac{1}{2}x + \frac{1}{2}$$



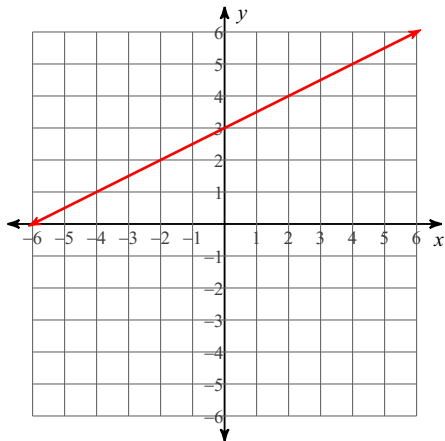
$$16) g(n) = \frac{-3n + 9}{7}$$

$$g^{-1}(n) = \frac{9 - 7n}{3}$$

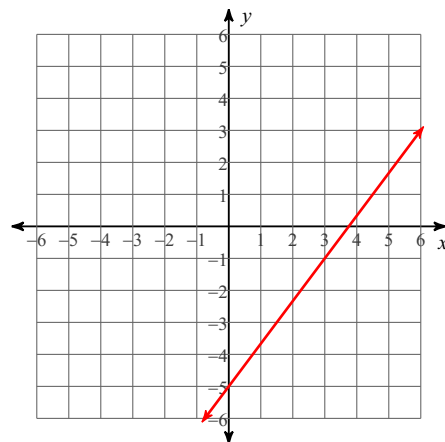


Sketch the graph of each line.

17)  $y = \frac{1}{2}x + 3$



18)  $4x - 3y = 15$



Write the point-slope form of the equation of the line through the given points.

19) through:  $(3, -2)$  and  $(-3, -3)$

$$y + 2 = \frac{1}{6}(x - 3)$$

Write the slope-intercept form of the equation of the line through the given points.

20) through:  $(-2, 4)$  and  $(-3, 5)$

$$y = -x + 2$$

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

21) through:  $(4, -3)$ , parallel to  $y = 5x + 1$

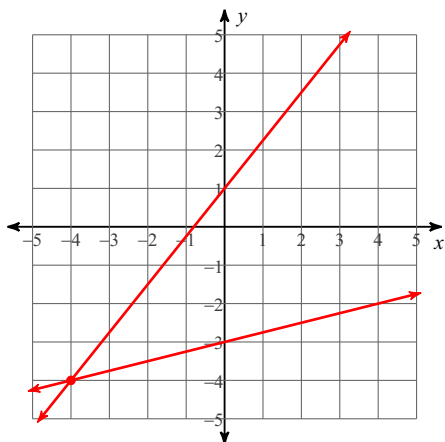
$$y = 5x - 23$$

22) through:  $(-4, 1)$ , perp. to  $y = \frac{2}{3}x - 3$

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

**Solve each system by graphing.**

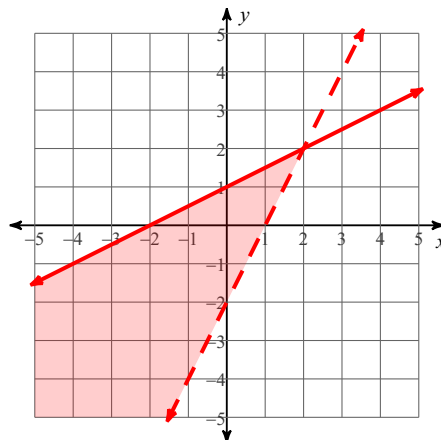
23)  $5x - 4y = -4$   
 $x - 4y = 12$



$(-4, -4)$

**Sketch the solution to each system of inequalities.**

24)  $2x - y < 2$   
 $x - 2y \geq -2$



**Solve each system by substitution.**

25)  $y = x - 7$   
 $-x + 3y = -21$

$(0, -7)$

26)  $2x - 2y = -8$   
 $-x + y = 4$

Infinite number of solutions

**Solve each system by elimination.**

27)  $-9x + 4y = 29$   
 $6x + y = -1$

$(-1, 5)$

28)  $-2x - 2y = -20$   
 $5x - 7y = -10$

$(5, 5)$

**Solve each system.**

29)  $-4r + 5s + t = 10$   
 $-6r + s - 6t = 4$   
 $2s + 6t = -4$

$(2, 4, -2)$