

HW35: Semester 1 Exam Review

Simplify each expression.

1) $9(11v - 12) - 2v$

2) $4n + 6(1 + 7n)$

Evaluate each using the values given.

3) $x \div 4 - (y + z)$; use $x = 8$, $y = 6$, and $z = -14$

4) $3 - y(-4 + x)$; use $x = 2$, and $y = 7$

Solve the equation. Be sure to check your solution.

5) $-2 = \frac{n}{17}$

6) $1 + 3n = -11 + 6 + 8n - 8n$

7) $6(8x + 5) + 8(5 - 5x) = 78$

8) $u = ka - b$, for a

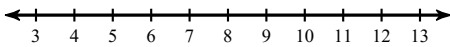
Write the sentence as an inequality.

9) The product of x and 10 is greater than or equal to 5.

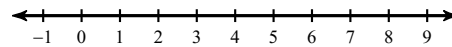
10) 19 less than v is greater than or equal to 20.

Solve each inequality and graph its solution.

11) $-2(8x + 7) + 3x \leq -92$



12) $160 < 8(6k - 4)$



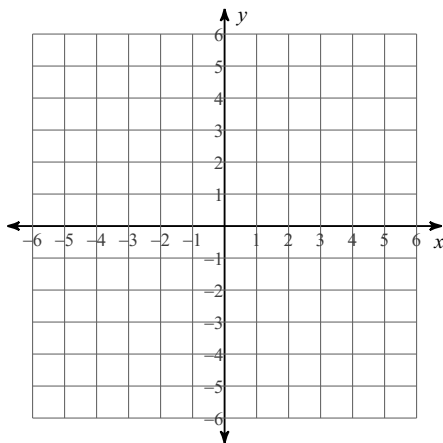
Find the slope of the line through each pair of points.

13) $(19, -8), (-10, -18)$

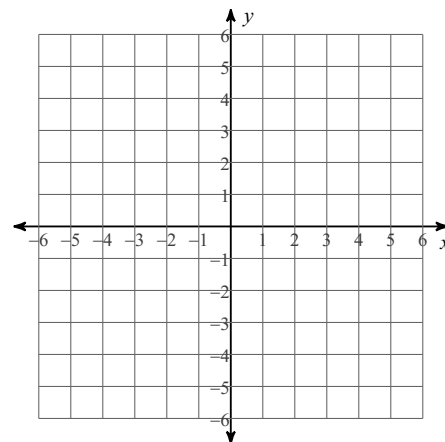
14) $(-14, -19), (10, 1)$

Sketch the graph of each line.

15) $y = \frac{1}{4}x - 2$



16) $x - 4y = -4$



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

17) through: $(2, -3)$, slope = 1

18) through: $(3, 1)$, perp. to $y = -x$

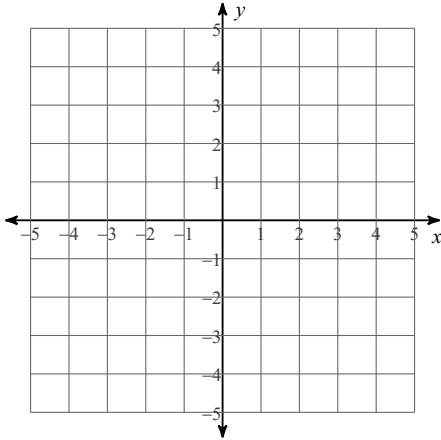
Solve each system by any method.

19) $-6x + 2y = -10$
 $12x - 5y = 25$

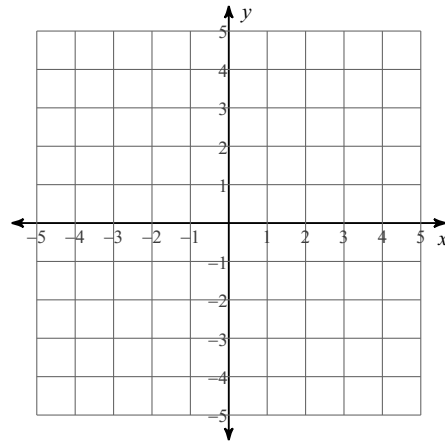
20) $y = -6x - 9$
 $-12x - 2y = 18$

Sketch the solution to each system of inequalities.

$$21) \begin{aligned} y &> -\frac{1}{2}x - 2 \\ y &> -\frac{5}{2}x + 2 \end{aligned}$$



$$22) \begin{aligned} y &> -\frac{1}{2}x + 2 \\ y &\geq -3x - 3 \end{aligned}$$

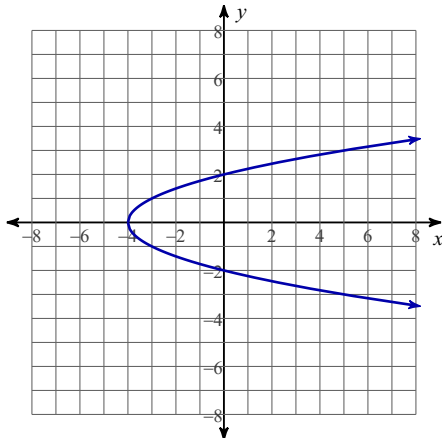


Draw and label the function notation diagram.

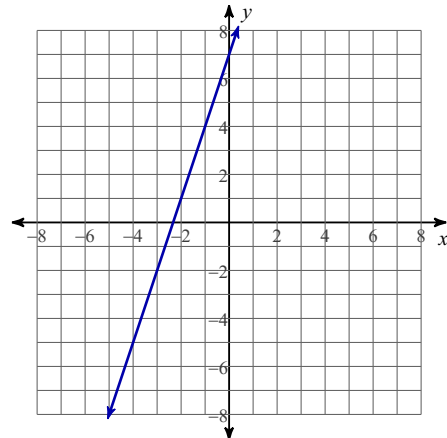
- 23) A)
B)
C)
D)
E)

Determine whether the relation is a function. If the relation is a function, determine whether the function is linear or nonlinear. (Hint: to decide if it is linear, determine if the slope is the same for all pairs of points.)

24)



25)



$$26) y = |x| + 8$$

$$27) \begin{array}{r} x & -2 & 0 & 3 & 6 & -2 \\ y & -3 & -4 & -5 & -6 & -7 \end{array}$$

$$28) \begin{array}{r} x & -2 & 0 & 2 & 6 & 10 \\ y & -5 & -1 & 3 & 11 & 19 \end{array}$$

Evaluate the functions.

$$29) f(x) = -4x - 1; \text{ Find } f(-2)$$

$$30) h(t) = 3t^2 - 2t; \text{ Find } h(0)$$

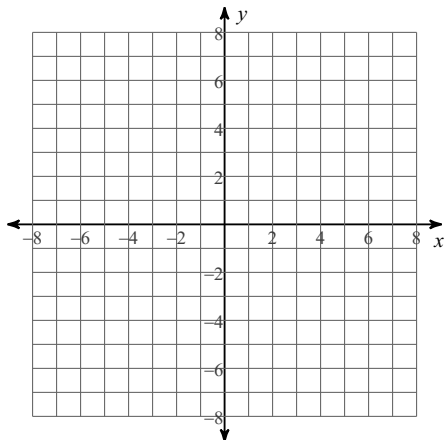
Solve the functions.

31) $f(x) = 2x + 4$; $f(x) = -4$

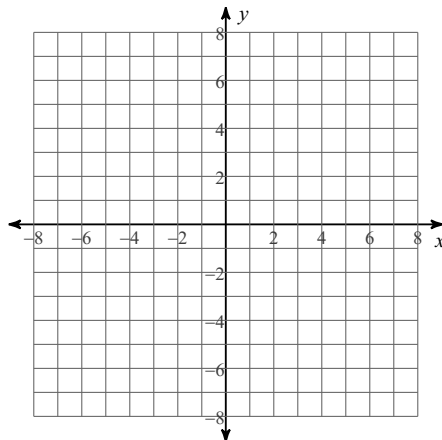
32) $f(x) = 2x + 7$; $f(x) = -7$

Write the function definition and graph the basic functions.

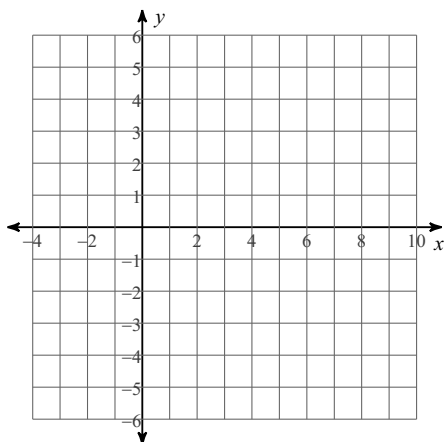
33) Linear



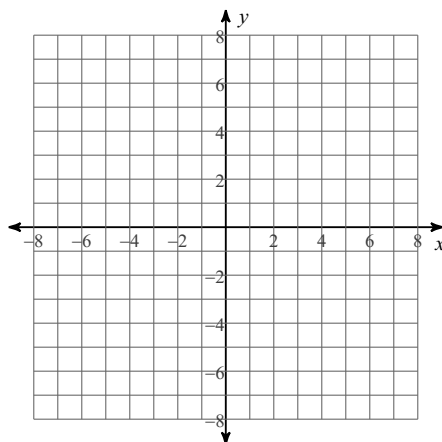
34) Absolute Value



35) Square Root

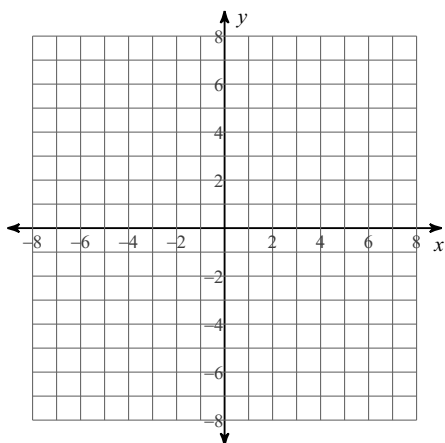


36) Quadratic



Graph f and g . Describe the transformations from the graph of f to the graph of g . (e.g. what happens to f to create g ?)

37) $f(x) = \sqrt{x}$; $g(x) = -\sqrt{x+4} - 2$



38) $f(x) = |x|$; $g(x) = \frac{1}{2} \cdot |x|$

