

Summer Assignment

Date _____

Simplify each expression.

1) $x - 6 + x + 6$

Solve each equation.

2) $6(4x - 6) = 132$

Solve each question. Round your answer to the nearest hundredth.

- 3) Huong can pick forty bushels of apples in 8 hours. Willie can pick the same amount in 11 hours. How long would it take them if they worked together?
- 4) A diesel train left Berlin and traveled north. A freight train left three hours later traveling 15 mph faster in an effort to catch up to it. After 15 hours the freight train finally caught up. What was the diesel train's average speed?

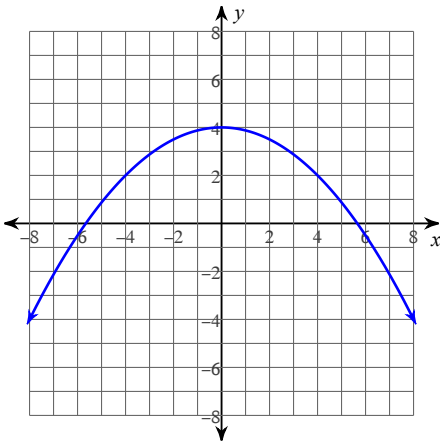
Each table represents a relation. Determine if the relation is a function.

5)

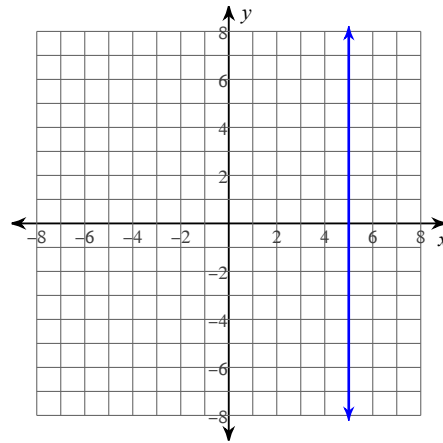
x	y
-2	-6
0	6
1	5
3	0
7	-3

Each graph represents a relation. Determine if the relation is a function.

6)



7)



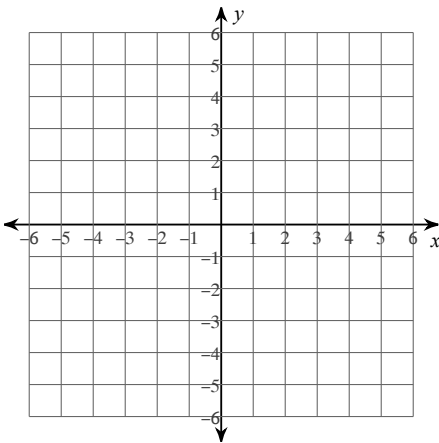
Evaluate each function for the given value.

8) $f(x) = 3|x + 3| - 3$; Find $f(-4)$

9) $f(x) = 3x + 5$; Find $f(-2)$

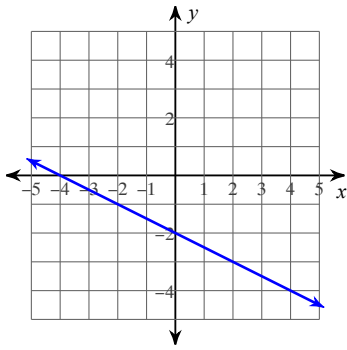
Sketch the graph of each line.

10) $x + 3y = 3$



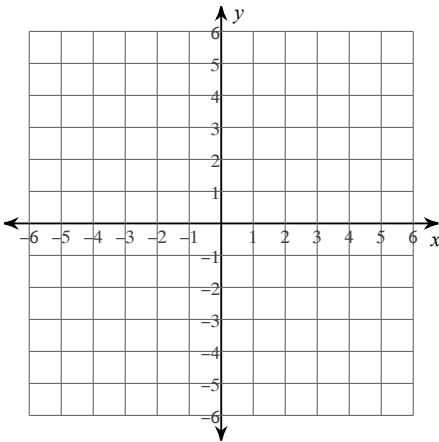
Write the slope-intercept form of the equation of each line.

11)



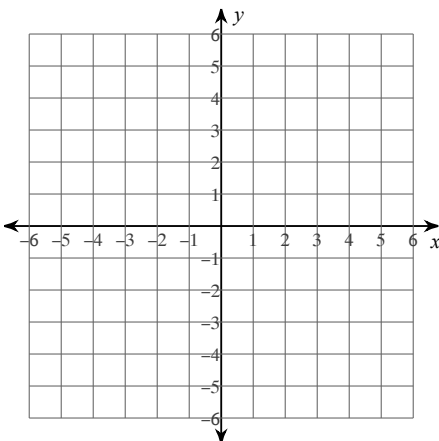
Graph each equation.

12) $y = |x - 1| - 3$



Sketch the graph of each linear inequality.

13) $y < -\frac{5}{2}x + 3$



Solve each system by graphing.

14) $y = -\frac{5}{3}x + 4$
 $y = x - 4$

Solve each system by elimination.

15) $5x - 6y = 12$
 $x + 9y = -18$

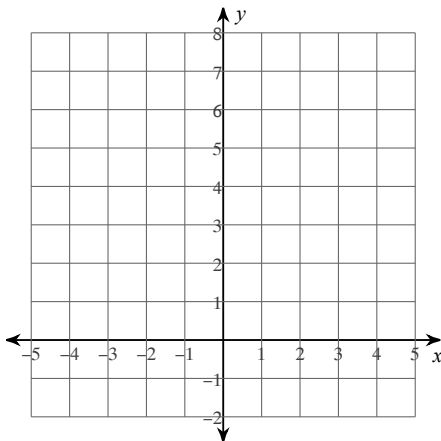
Solve each system by substitution.

16) $-6x + 5y = 2$
 $-x + y = -1$

17) A boat traveled 135 kilometers each way downstream and back. The trip downstream took 5 hours. The trip back took 15 hours. Find the speed of the boat in still water and the speed of the current.

Sketch the graph of each function.

18) $y = 2x^2 + 8x + 7$



Factor each completely.

19) $25p^2 - 16$

Solve each equation by taking square roots.

20) $9m^2 - 8 = 17$

Solve each equation by factoring.

21) $m^2 - 28 = -3m$

Factor each completely.

22) $49m^3 - 28m^2 - 56m + 32$

23) $u^4 + 19u^2 + 90$

Simplify each expression.

24) $(p^3 + 2 + 2p^4) - (8p^3 + 2p^4 + 1)$

Find each product.

25) $(8p + 6)(7p - 5)$

26) $(2x + 8)^2$

Evaluate each function.

27) $h(x) = -x^2 - 2$; Find $h(9)$

Simplify.

28) $\sqrt{200p^2}$

29) $2\sqrt{8} - 2\sqrt{8} + 3\sqrt{5}$

$$30) \sqrt{10}(-5\sqrt{2} + 3)$$

$$31) \frac{3\sqrt{20}}{5\sqrt{9}}$$

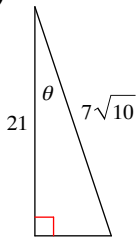
Convert each degree measure into radians and each radian measure into degrees.

$$32) 45^\circ$$

$$33) -\frac{11\pi}{3}$$

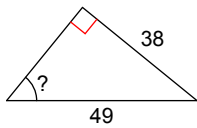
Find the value of the trig function indicated.

$$34) \tan \theta$$



Find the measure of the indicated angle to the nearest degree.

$$35)$$



Find the measure of each angle indicated. Round to the nearest tenth.

$$36)$$

