

## Honors Homework 4.1

30 Questions

NAME : \_\_\_\_\_

CLASS : \_\_\_\_\_

DATE : \_\_\_\_\_

1. Write the explicit formula in function notation for the following sequence: 30, 24, 18,...

a)  $f(x) = -6x + 36$

b)  $f(x) = -6x + 30$

c)  $f(x) = f(n-1) - 6, f(1) = 30$

d)  $f(x) = f(n-1) + 6, f(1) = 30$

2.

| $x$ | $y$ |
|-----|-----|
| 2   | 3   |
| 2   | 4   |
| 2   | 5   |
| 2   | 6   |
| 2   | 7   |

Find the slope given the table

a) undefined

b) no slope

c) 2

d)  $1/2$

3. Find the missing terms for the following: 5, 10, \_\_\_\_, \_\_\_\_, \_\_\_\_, 30, ...

a) 20, 40, 80

b) 15, 20, 25

c) 16, 20, 24

d) -15, 20, -25

4. Is the following discrete or continuous & linear or exponential:

To meet the demands placed on them, the brick layers have started laying 5% more bricks each day.

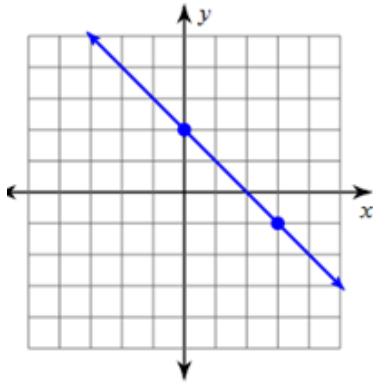
a) Discrete & Linear

b) Continuous & Linear

c) Discrete & Exponential

d) Continuous & Exponential

5.



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

a)  $y = 2x - 1$

b)  $y = 2x + 2$

c)  $y = -x - 2$

d)  $y = -x + 2$

6. Find the slope of the following points & write the equation in point-slope form: (10, 16) and (16, 17)

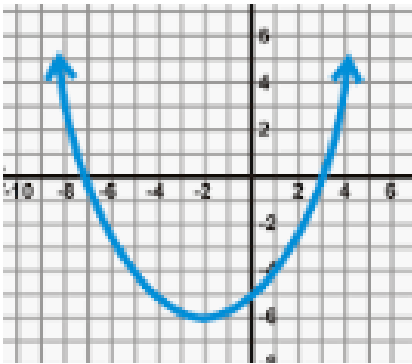
a)  $m = 6 ; y - 16 = 6(x - 10)$

b)  $m = 1/6 ; y - 16 = 1/6(x - 10)$

c)  $m = -6 ; y - 10 = -6(x - 16)$

d)  $m = 1/6 ; y - 10 = 6(x - 16)$

7.



What is the domain and range of the following:

a)  $D: (-\infty, \infty) ; R: (-\infty, \infty)$

b)  $D: (-\infty, \infty) ; R: (\infty, -6)$

c)  $D: (-\infty, \infty) ; R: (-6, \infty)$

d)  $D: (-6, \infty) ; R: (-\infty, \infty)$

8. Solve the following for x:  $12x - 3 = 45 - 4x$

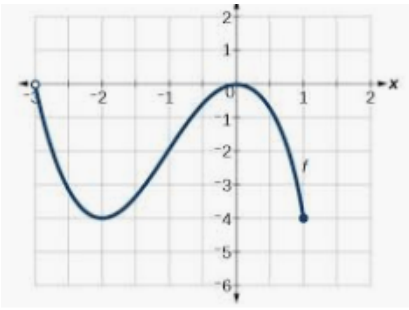
a)  $x = 21$

b)  $x = 8$

c)  $x = 7$

d)  $x = 3$

9.



Find the x-intercept(s) & y-intercept(s) of the following the graph:

a) x-int: (-3, 0), (0,0) ; y-int: (0,0)

b) x-int: (3, 0) ; y-int: (0,0)

c) x-int: (0, 0) ; y-int: (-3, 0) & (0,0)

d) x-int: (0,0) ; y-int: (0,0)

10. Find the x-intercept & y-intercept of the following:  $3x - 2y = -36$

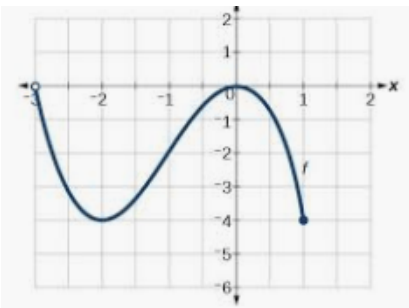
a) x-int: (12, 0) ; y-int: (0, -18)

b) x-int: (-12, 0) ; y-int: (0, 18)

c) x-int: (18, 0) ; y-int: (0, -12)

d) x-int: (-18, 0) ; y-int: (0, 12)

11.



What is the interval of decreasing for the following:

a)  $(-3, -2) \cup (0, 1]$

b)  $(-4, 0)$

c)  $(-2, 0)$

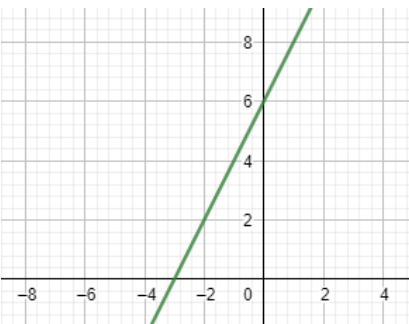
d)  $(-3, -4) \cup (0, -4]$

12. This occurs when the y-value is 0:

a) x-intercept

b) y-intercept

13.



What is the equation of the following graph:

a)  $y = 6x + 2$

b)  $y = -2x + 6$

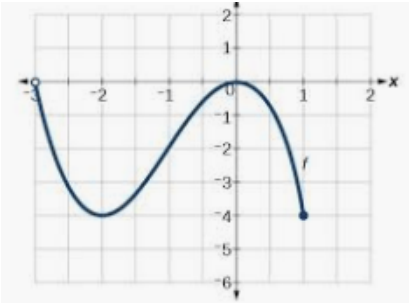
c)  $y = 2x + 6$

d)  $y = 6x + 6$

A function is always a relation.

14.  a) True  
 b) False

15.



What is  $f(-2)$

- a) -1  
 b) -2  
 c) -4  
 d) 0
16. Solve :  $243 - 8x = 8x + 3$
- a)  $x = 15.375$   
 b) No Solution  
 c)  $x = 0$   
 d)  $x = 15$

17. Solve:  $3x - 12 = -4x + 23$

- a)  $x = 5$   
 b)  $x = -5$   
 c)  $x = 35$   
 d)  $x = -35$

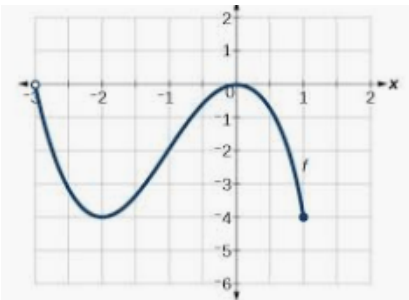
18.

$$5^x - 7 = 118$$

Describe the following equation:

- a) Linear  
 b) Exponential  
 c) Quadratic  
 d) Nonlinear

19.



What is  $x$  when  $f(x) = -4$

- a) 0  
 b) -2  
 c) -4  
 d) -2 & 1

20. Which of the following have a domain of all real numbers?

a) Linear

b) Exponential

c) Quadratic

d) All the above

21. Which of the following has a range that is determined by an asymptote?

a) Linear

b) Quadratic

c) Exponential

d) All the above

22.

$$5^x - 7 = 118$$

Solve for x:

a)  $x = 25$

b)  $x = 120$

c)  $x = 5$

d)  $x = -5$

23. Solve the following for  $x$ :  $ax + by = c$

a)

$$x = c - by - a$$

b)

$$x = \frac{c + a}{by}$$

c)

$$x = \frac{c + by}{a}$$

d)

$$x = \frac{c - by}{a}$$

24. Solve:  $7x - 17 = -53 - 10x$

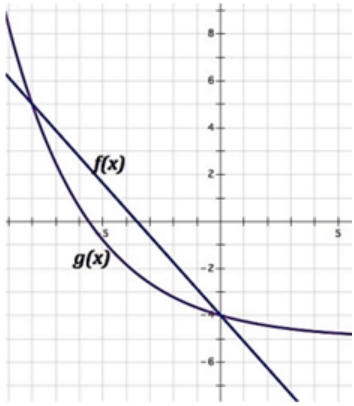
a)  $x = 12$

b)  $x = -39$

c)  $x = -33$

d)  $x = -12$

25.



On what interval is  $f(x) > g(x)$

a) (5, -4)

b) (-4, 5)

c) (8, 0)

d) (-8, 0)

26.

Solve for x

$$\frac{1}{3}x - 12 = -8$$

a) 6.6

b) -60

c)  $x = -12$

d)  $x = 12$

27.

Solve for x:

$$4 - \frac{2}{7}x + 12 = 0$$

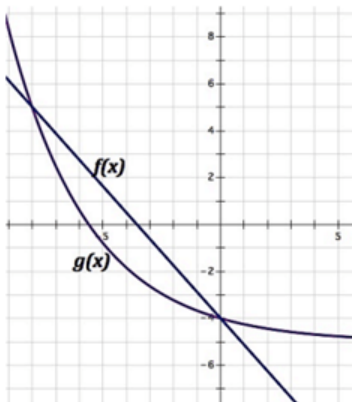
a) -28

b) 28

c) 56

d) -56

28.



Where does  $f(x) = g(x)$

a) (5, -8) & (0, -4)

b) (-5, 8) & (-4, 0)

c) (-8, 5) & (0, -4)

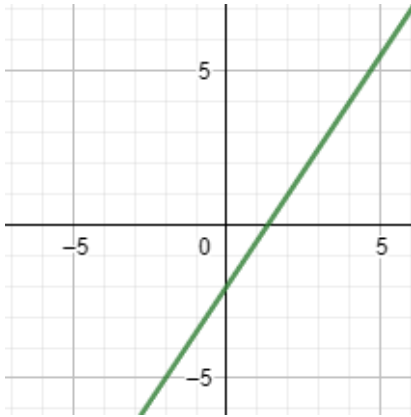
d) (8, -5) & (-4, 0)

29.

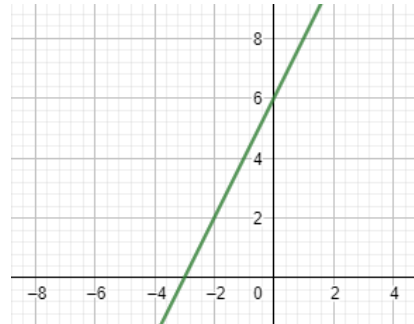
Graph the following:

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

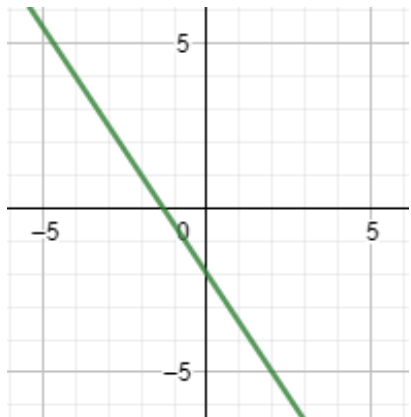
a)



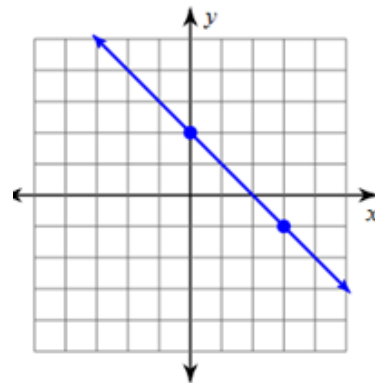
b)



c)



d)



30. Solve the following:  $12(2y + 11) = 12(2y + 12)$

a) Infinite Solutions

b)  $y = 2$

c)  $y = 5.75$

d) No Solution