**Algebra Foundations 2** **Name**_____
**Review**

**Evaluate each expression.**

1. $[2^3 + (24 \div 8 + 4)] - 3^2$

2. $(6^2 \div 2 \cdot 3) + (4^2 - 9 + 1)^2$

**Check whether the given number is a solution of the equation or inequality.**

3. $4x + 2 = 2x + 8$
$x = 2$

4. $3x - x = 12 - 2x$
$x = 3$

5. $x(2x - 2) < 30 - 3x$
$x = 4$

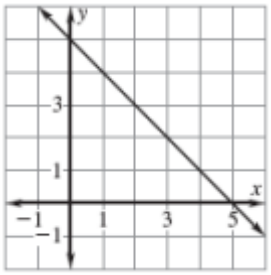
**Solve the equation if possible.**

6. $6(-x + 3) = -4(2x - 1)$

7. $\frac{1}{2}(4x - 16) = 2x - 8$

8. $-(18 + x) = 2(11 - 6x) = x$

**Find the slope ($m$), the $x$-intercept, and the $y$-intercepts. Then write an equation of the line in slope-intercept form.**

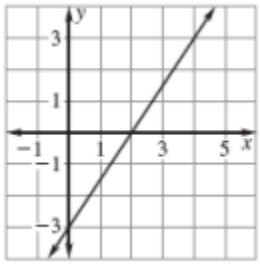
9. 

slope ($m$) = _____

$x$-intercept:_____

$y$-intercept:_____

EQ:_____

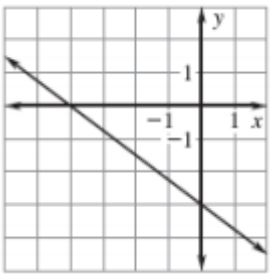
10. 

slope ($m$) = _____

$x$-intercept:_____

$y$-intercept:_____

EQ:_____

11. 

slope ($m$) = _____

$x$-intercept:_____

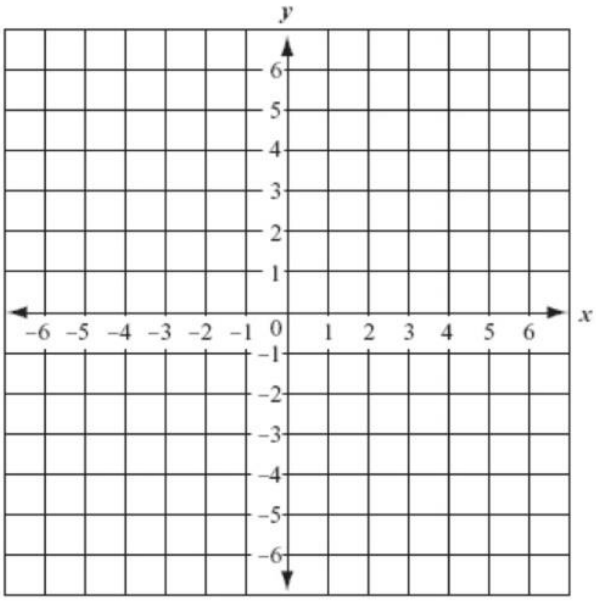
$y$-intercept:_____

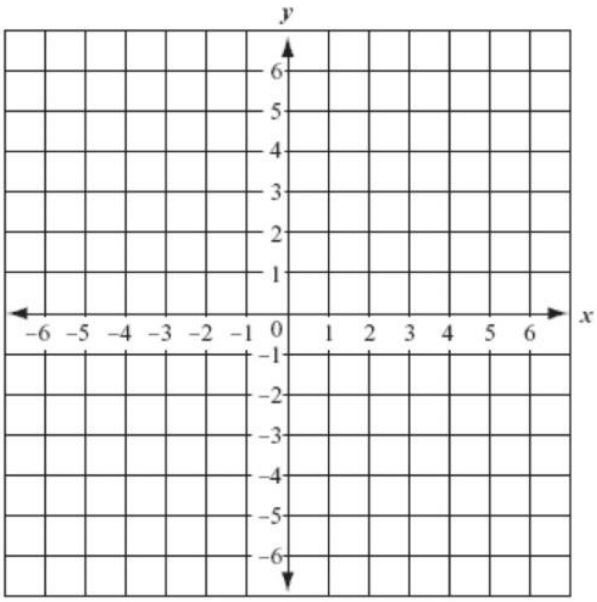
EQ:_____

**Write an equation of the line that is *parallel* to the given line and passes through the given point. Then graph the line.**

12. $y = -3x + 5$ passes thru $(-1,\ 4)$

13. $y = \frac{1}{2}x + 5$ passes thru $(2,\ 5)$





**Write the standard form of the equation of the line that passes through the given points.**

14. $(3, -7)\ and\ (-3,\ 11)$

15. $(2,\ 18)\ and\ (-2,\ 2)$

16. $(3,\ 19)\ and\ (-2, -11)$

17. $(2, -5)\ and\ (8,\ 1)$

**Given the standard form of the equation of the line, find the x-intercept and the y-intercept.**

19. $12x - 4y = 36$

20. $9x + 3y = -18$

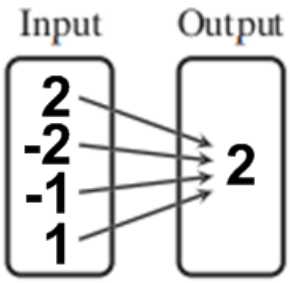
21. $6x - 4y = -48$

**Determine whether the following is a function.**

22.

| Input | Output |
|---|---|
| 2 | 2 |
| 1 | 3 |
| -2 | 2 |
| -1 | 2 |
| 0 | -1 |

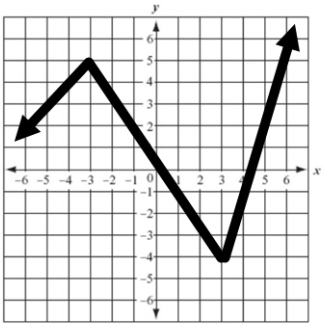
23.




24.

{(2, -3), (-1, 3), (0, 3), (-2, -3), (2, -3)}

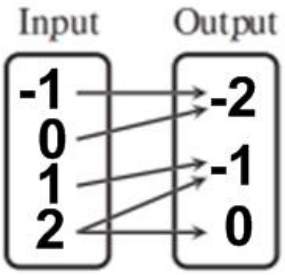
25.



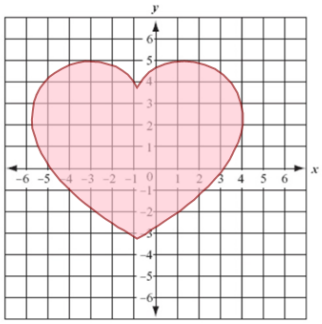
26.

{(2, 2), (3, 2), (-1, 2), (-2, 2), (22, 2)}

27.



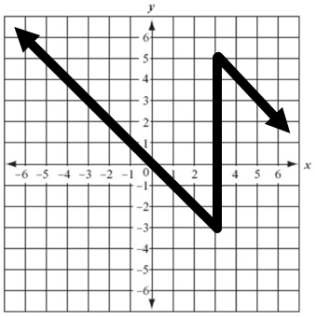

28.



29.

| Input | Output |
|---|---|
| 2 | 2 |
| 0 | -1 |
| -2 | 0 |
| 1 | 1 |
| 0 | -1 |

30.



**State the domain and the range of the coordinates. Then determine whether the following coordinates are a function.**

31. {(1, 2), (3, 2), (4, 3), (2, 3), (0, 2)}

Domain:_____

Range:_____

Function:_____

32. {(-2, -3), (6, 8), (-2, 3), (2, 3), (8, 6)}

Domain:_____

Range:_____

Function:_____