

Name: \_\_\_\_\_ Period: \_\_\_\_\_

Score: \_\_\_\_\_ / \_\_\_\_\_ =

\_\_\_\_\_ % = \_\_\_\_\_

## HW 3-6: Linear vs. Non-Linear

Show whether each set of tables represents a linear relationship by finding several slopes. For each linear relationship write an equation in slope-intercept form. If it is non-linear, explain why it is not.

1.

X	Y
-1	-5
0	-2
4	10
10	28

2.

X	Y
-2	0
-1	1
0	3
1	6

3.

X	Y
4	2
9	3
16	4
25	5

4.

X	Y
-2	-10
-1	-5
0	0
3	15

5.

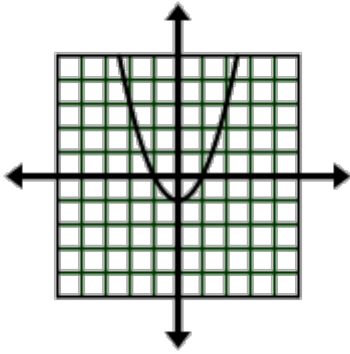
X	Y
1	1
2	8
3	27
4	64

6.

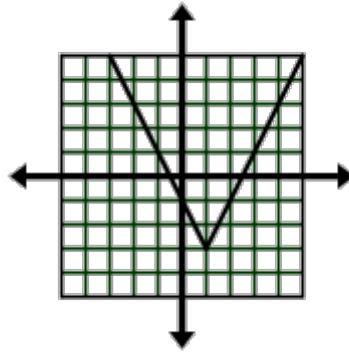
X	Y
-4	12
-3	10
-2	8
-1	6

**Problems 7-12: Determine whether the following graphs and equations are linear or not linear. Explain how you know.**

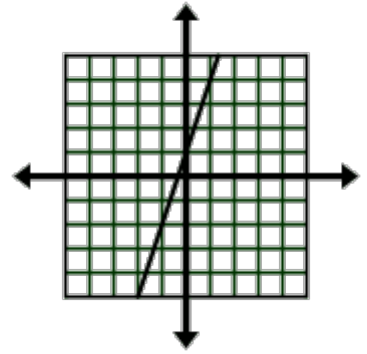
7.



8.



9.



10.  $y = |3x - 5| + 1$

11.  $-2(x - 4) + 1 = y$

12.  $y = (x^2 + 4) - x$

**Tell whether each equation is linear or non-linear. Explain why or why not.**

13.  $y = 2x + 5$

18.  $y = |2x + 1|$

14.  $y = x^3 + 1$

19.  $y = \frac{x^2}{2}$

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

20.  $y = 4$

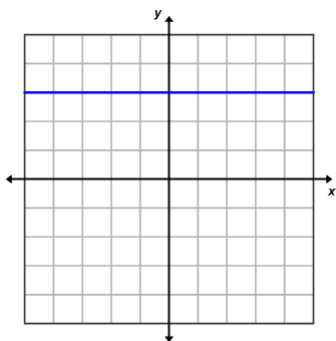
16.  $y = 0.4x - 4$

21.  $y = |x| + 10$

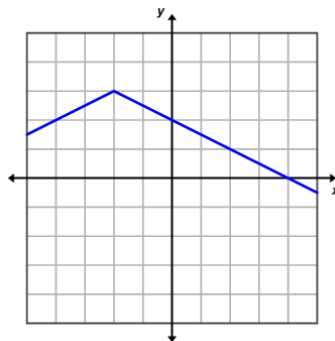
17.  $y = x$

Tell whether each graph is linear or non-linear. Explain. If it is linear, find the slope.

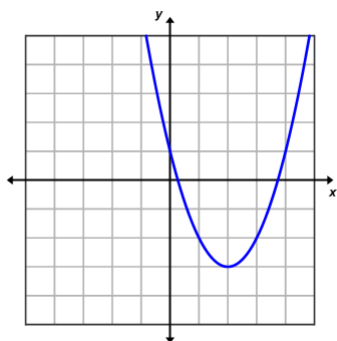
22.



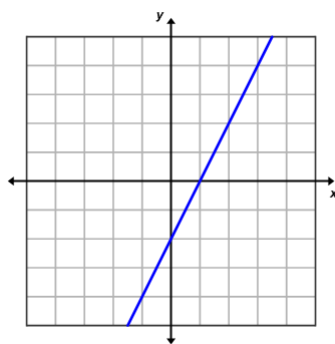
25.



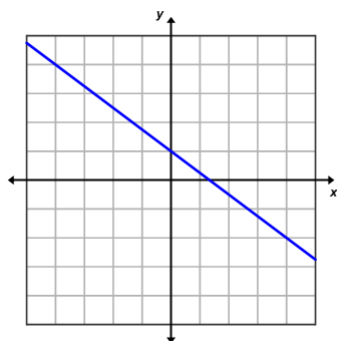
23.



26.



24.



27.

