

Linear Functions (Unit 2) Review Part 1

Name: _____

Period _____

Directions: Answer the question to each problem. Use the formula $a_n = d(n-1) + a_1$. **Show all work!**

1. What is the 121st term of the sequence with $a_1 = 2.5$ and $d = 7.5$?
2. What is the common difference of a sequence with $a_1 = 24.2$ and $a_{29} = 122.2$?
3. What is the 1st term of the sequence with $a_{57} = 845$ and $d = -13$?
4. What term is 295 of the sequence with $a_1 = 15$ and $d = 4$?

Directions: Find the all elements of the domain and range for each number relationship. Then determine if each number relationship is a function or not.

5. $(0, 1), (1, 2), (2, 3), (3, 2), (4, 1), (5, 0)$

5. D:

R:

Function?

6.

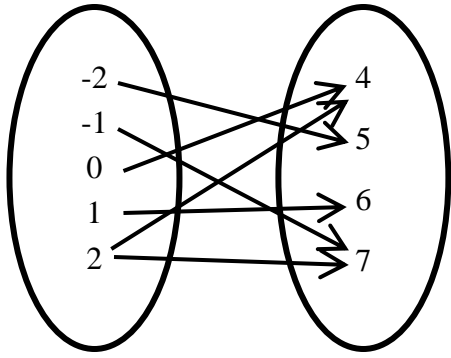
x	8	3	0	-1	0	3	8
y	2	3	4	5	6	7	8

6. D:

R:

Function?

7.

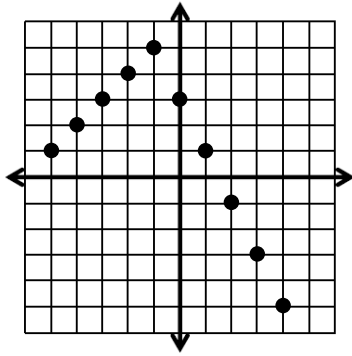


7. D:

R:

Function?

8.



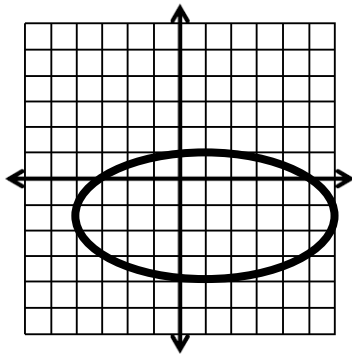
8. D:

R:

Function?

Directions: State the domain and range for each number relationship in **set notation**. Then determine if the number relationship is a function.

9.

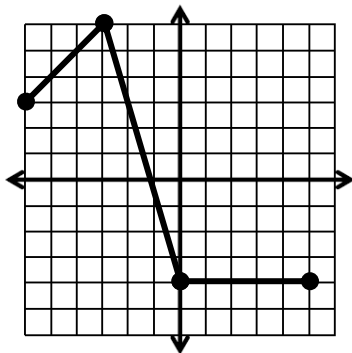


10. D:

R:

Function?

10.



10. D:

R:

Function?

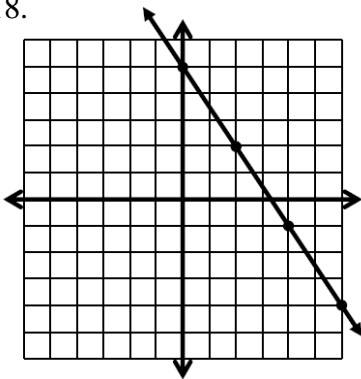
Directions: Find the slope of each line. Reduce all fractions, if possible.

16. $(-6, 3)$ & $(2, -3)$

17.

x	y
-8	17
-4	14
0	11
4	8
8	5
12	2

18.



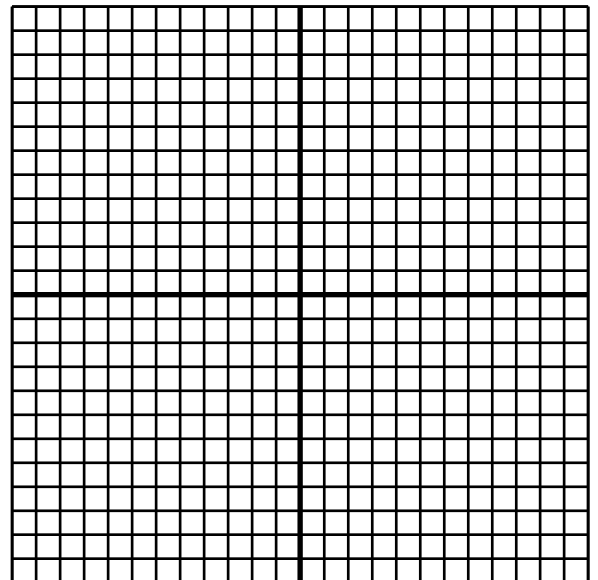
19.

x	y
-12	-6
-6	-2
0	2
6	6
12	10
18	14

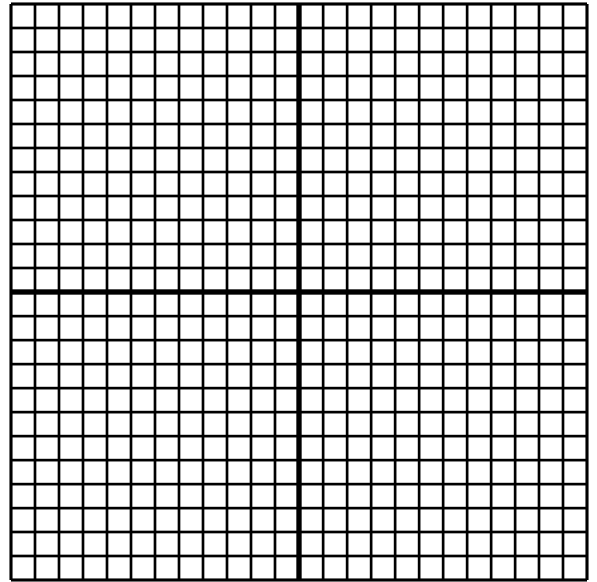
Directions: Graph each pair of linear functions on the coordinate plane to the right.

20. $y = \frac{3}{2}x - 7$

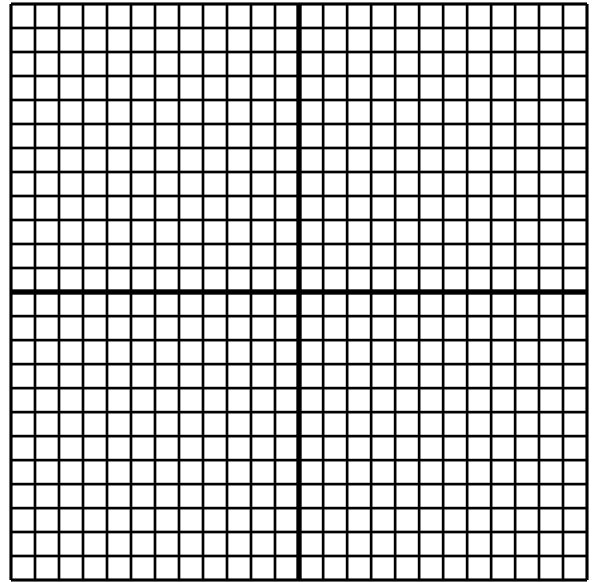
21. $y = -2x + 4$



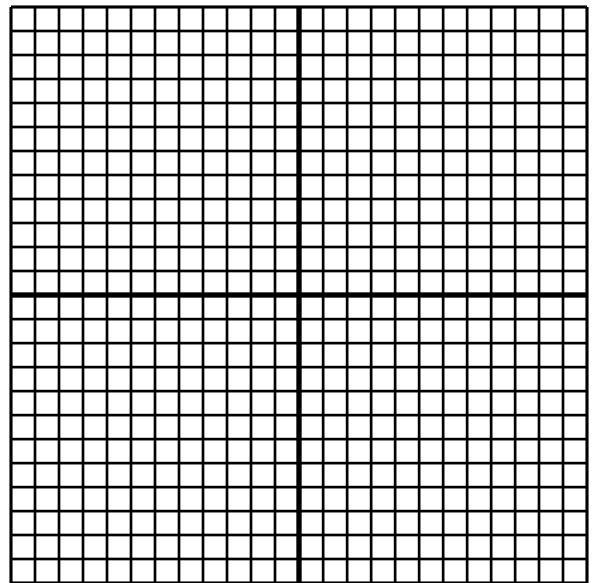
22. $y + 4 = \frac{1}{2}(x - 3)$



23. $y - 7 = -\frac{5}{3}(x + 5)$



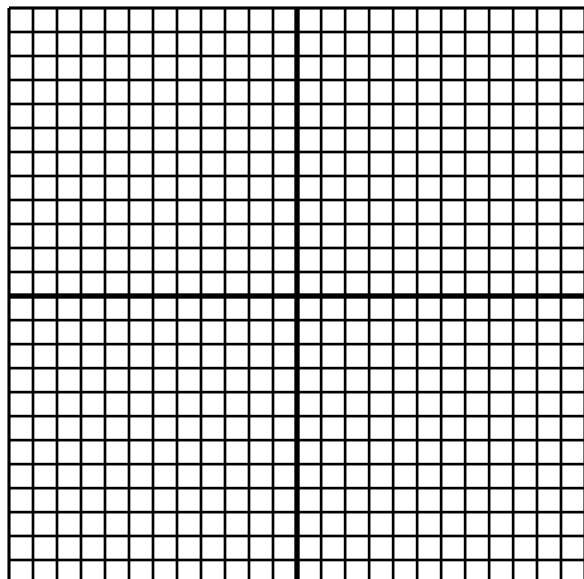
24. $5x + 4y = -25$



25. $2x - y = 8$

26. Graph $4x - 3y = -18$ and a **parallel** line at $(5, -2)$.

27. Graph $y + 6 = -\frac{2}{3}(x - 5)$ and a **perpendicular** line at $(-3, 5)$.

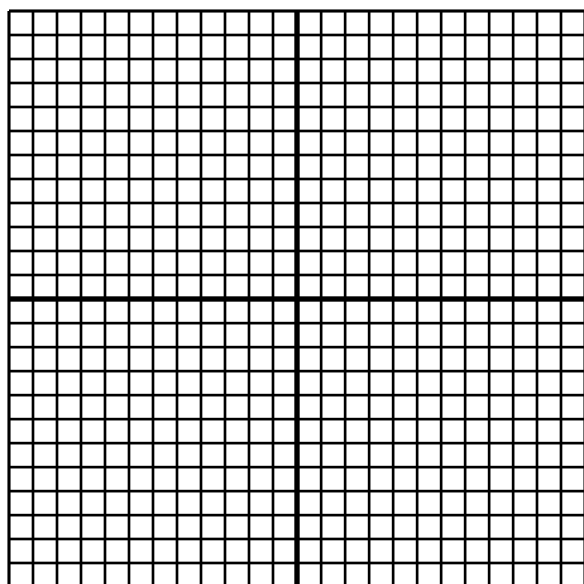


Directions: Graph each function, then state the domain and range.

28. Graph $y - 5 = \frac{5}{2}(x + 4)$.

Domain:

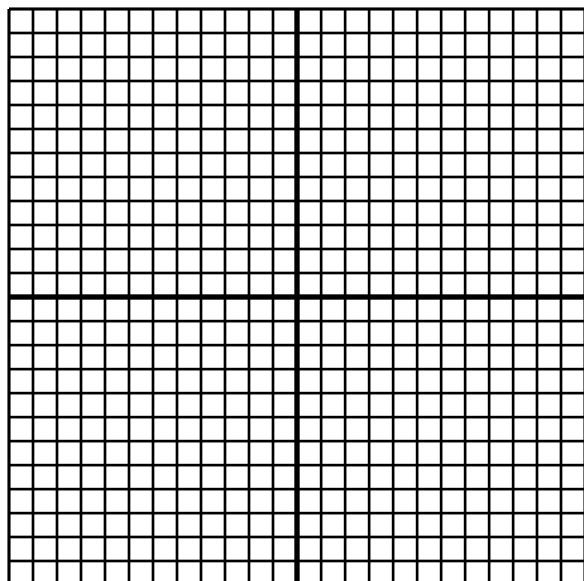
Range:



29. Graph $y = 8$.

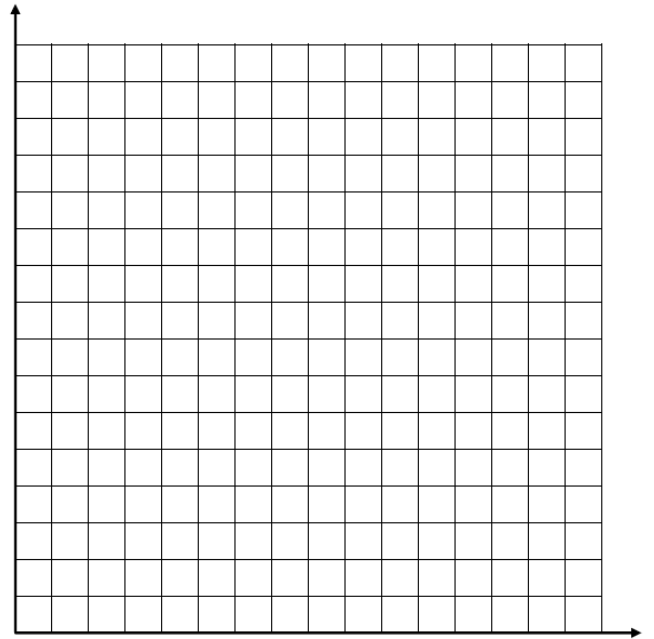
Domain:

Range:



Directions: Answer the 2 questions by graphing the linear function using the information in the paragraph.

30. Chuck and Cindy took a taxi from the airport to their hotel costing \$25.00. The hotel was 12 miles away from the airport. The taxi charged a base rate and a \$1.50 per mile.



How much would it cost Chuck and Cindy if their hotel was 18 miles away?

How far is a hotel from the airport if a taxi ride is \$10.

Directions: Determine which points are on a line. Circle the points that line on the given line. There may be more than 1 answer. **Show all work.**

31. $y + 6 = -\frac{2}{3}(x - 8)$

a. $(-7, 4)$

b. $(2, -2)$

c. $(17, -12)$

d. $(11, -8)$

e. $(-25, -28)$

f. $(-10, -18)$

32. $5x - 3y = 37$

a. $(11, 6)$

b. $(-14, 36)$

c. $(19, -20)$

d. $(-7, -24)$

e. $(-25, -54)$

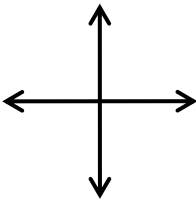
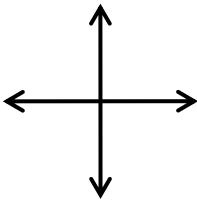
f. $(32, -41)$

33. What are the 2 definitions of slope?

34. What is the slope formula?

35. What are the 3 types of linear functions?

Directions: Complete the parent function chart.

PARENT FUNCTION:	Constant	
FUNCTION EQUATION:		$f(x) = x$
GRAPH:		
DOMAIN IN SET NOTATION:		
RANGE IN SET NOTATION:		