1st Semester Test Study Guide: Chapters 1 and 2

Name:_____ Period_____

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.

1. (4, 5), (2, -5), (3, 5), (7, -5), (3, -5)

1. D:

   R:

   Function?

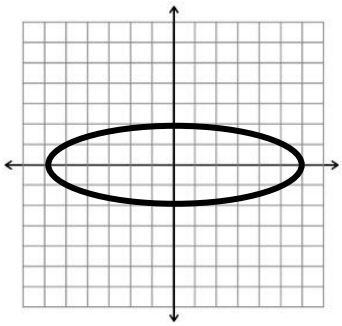
2.

x	*y*
-2	8
-1	6
0	4
1	2
2	0
2	-2

2. D:

   R:

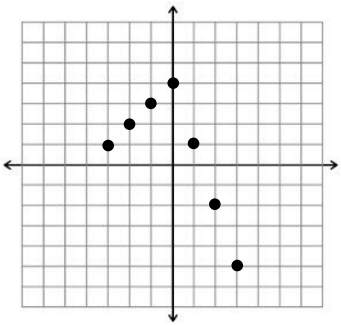
   Function?

3. 

3. D:

   R:

   Function?

4. 

4. D:

   R:

   Function?

5.

Time	1:00	2:00	3:00	4:00	5:00	6:00
Temperature	18° C	19° C	21° C	21° C	20° C	18° C

5. D:

   R:

   Function?

Directions: Evaluate the function $f(x) = x^2 - 4x + 5$ at the desired domain values.

6. $f(2) =$

7. $f(6) =$

8. $f(-3) =$

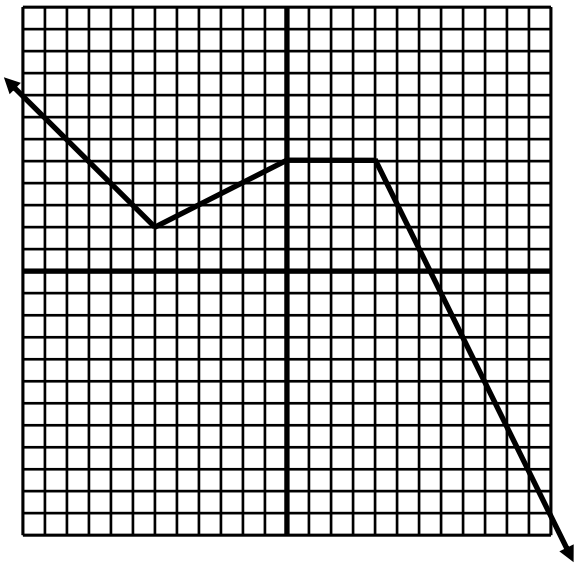
Directions: Use the graph to the right to evaluate each function at the given domain value.

9. $f(-8) =$

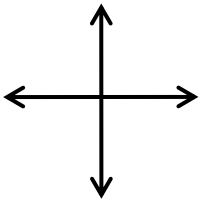
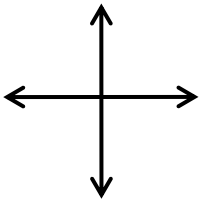
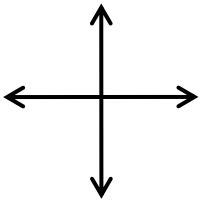
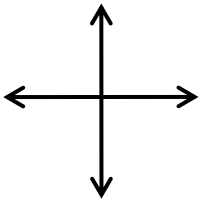
10. $f(-2) =$

11. $f(3) =$

12. $f(7) =$



13. Fill out the chart for the parent functions.

PARENT FUNCTION	**Constant**	**Linear**	**Quadratic**	**Absolute Value**
FUNCTION EQUATION				
GRAPH				
DOMAIN: Set Notation				
RANGE: Set Notation				
DOMAIN: Interval Notation				
RANGE: Interval Notation				

Directions: Solve each equation. **Show all work.**

14. $12-4(a+7)=20$

15. $8b-9-4b=2(b+7)+13$

16. $11-4c=-3(7+2c)$

17. $3d+8-5d=2(11-2d)$

18. $3(8-e)-(7-e)=25$

19. $-5(2g+7)=\frac{1}{2}(6-16g)$

Directions: Solve each inequality, **write your answer in set and interval notation**. **Show all work.**

20. $12+4(m+3)\geq -2(m-6)$

21. $5n-3(n-7)<3(2n-1)$

Directions: Solve each proportion.

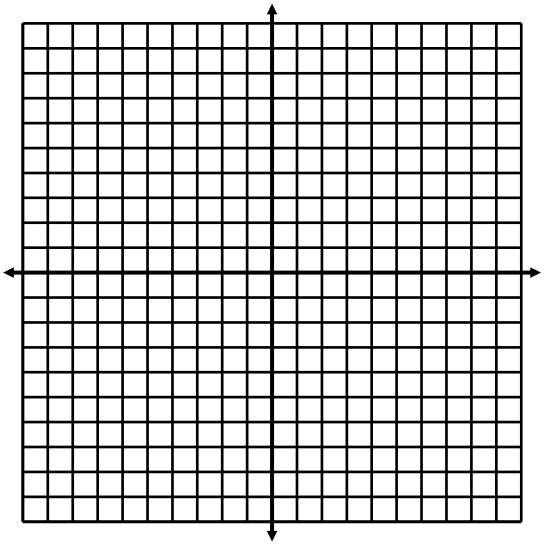
22. $\frac{p}{1.75} = \frac{64}{21}$

33. $\frac{t-3}{6} = \frac{t+7}{11}$

Directions: Graph each pair of equations on the coordinate grid.

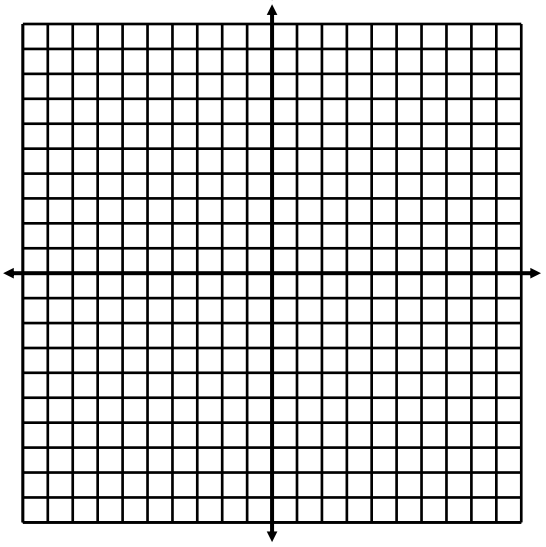
24. $y = \frac{2}{3}x + 3$

25. $y = -3x - 4$



26. $3x - 2y = -12$

27. $5x + 4y = 20$



Directions: Find the equation in **point-slope form** and **slope-intercept form** of the line with the given information. Use the point-slope formula: $y - y_1 = m(x - x_1)$. **Show all work.**

29. (8, 6) & $m = -\frac{3}{4}$

30. (7, -5) & $m = \frac{3}{4}$

Directions: Find the equation in **point-slope form** and **slope-intercept form** of the line with the given information. Use the point-slope formula: $y - y_1 = m(x - x_1)$. **Show all work.**

31. (-7, -3) & (-1, 5)

32. (4, -6) & (3, -2)

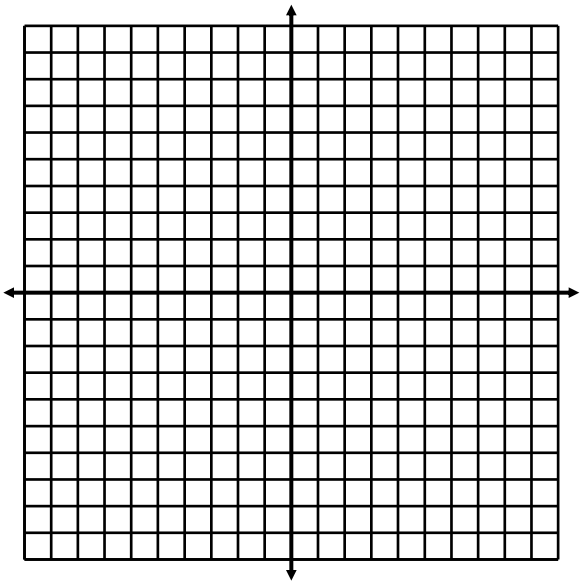
Directions: Find the equation in **point-slope form** and **slope-intercept form** of the line with the given information. Use the point-slope formula: $y - y_1 = m(x - x_1)$. **Show all work.**

33. The line goes through (-8, 6) and is **parallel** to $y = \frac{3}{2}x - 6$.

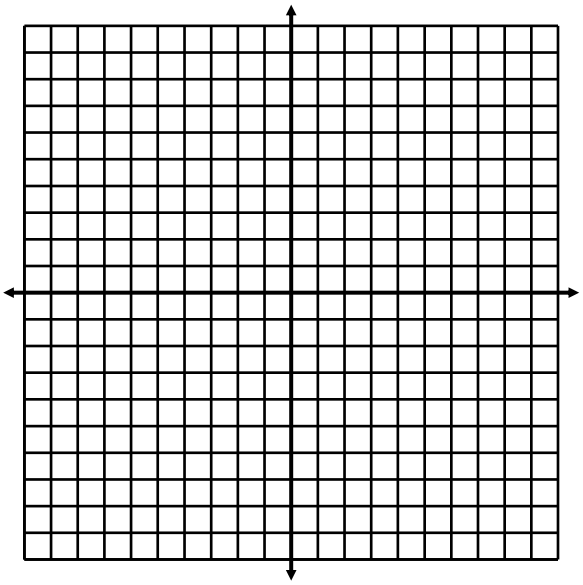
34. The line goes through (-6, 1) and is **perpendicular** to $y = \frac{2}{3}x - 1$.

Directions: Graph each inequality.

35. $y \leq \frac{5}{2}x - 2$



35. $2x + y > -4$



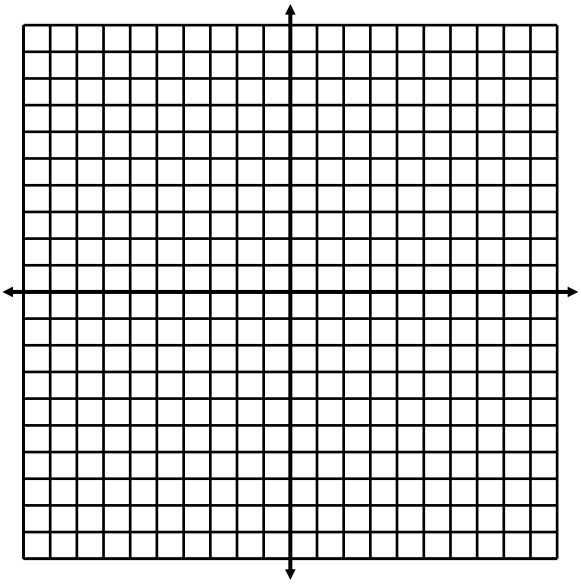
Directions: Solve each absolute value equation. **Show all work.**

36. $|3x-6|=12$

37. $\left|\frac{x}{4}+3\right|=5$

Directions: Graph each absolute value equation. Then describe the transformation of the parent function.

40. $y=|x-5|-3$



41. $y=2|x+4|-6$