

Algebra 2
WS: Chapter 1 Review

Name _____
Date _____ Block _____

In 1 – 4, evaluate the function when $x = -2$.

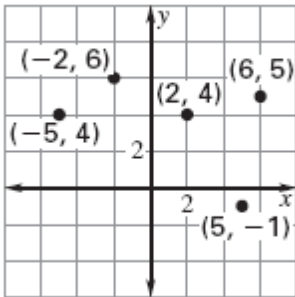
1. $f(x) = x$

2. $g(x) = 5|x - 3|$

3. $h(x) = -2x^2 + 1$

4. $j(x) = x^3 + 2x^2$

Use the relation shown for problems 5 – 7.

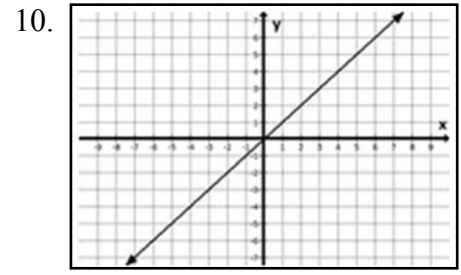
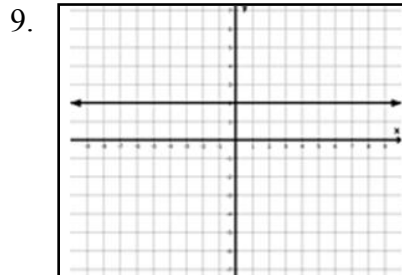
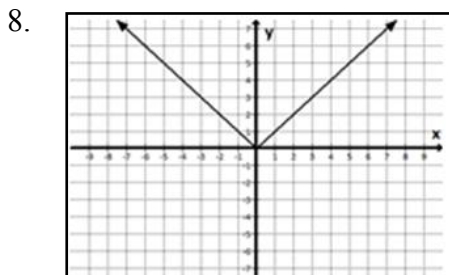


5. Identify the domain of the relation. _____

6. Identify the range of the relation. _____

7. Is the relation a function? *Explain your answer.*

In 8 – 10, identify the parent function graphed by writing the name or the equation. Then identify the type of symmetry and the domain and range (using interval notation).



Parent Function: _____

Parent Function: _____

Parent Function: _____

Symmetry: _____

Symmetry: _____

Symmetry: _____

D: _____

D: _____

D: _____

R: _____

R: _____

R: _____

In 11 - 13, using the graph of $f(x) = |x|$ as a guide, describe the transformations of each function and identify its domain and range.

11. $g(x) = 2|x| - 4$

12. $h(x) = -2|x - 3| + 1$

13. $k(x) = 0.2|x + 1| - 2$

Transformations:

Transformations:

Transformations:

D: _____

D: _____

D: _____

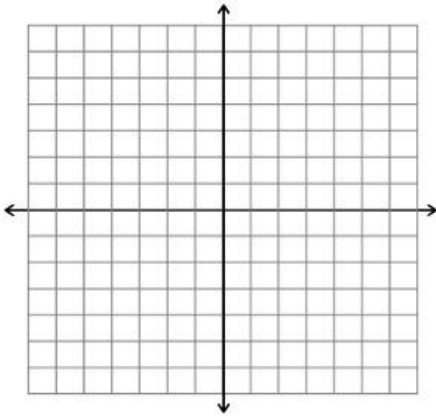
R: _____

R: _____

R: _____

In 14 - 16, graph each piecewise function. State the domain and range.

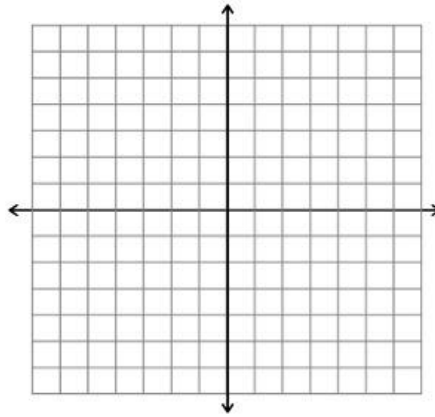
$$14. f(x) = \begin{cases} 3x-1, & \text{if } x < 3 \\ x+2, & \text{if } x \geq 3 \end{cases}$$



D: _____

R: _____

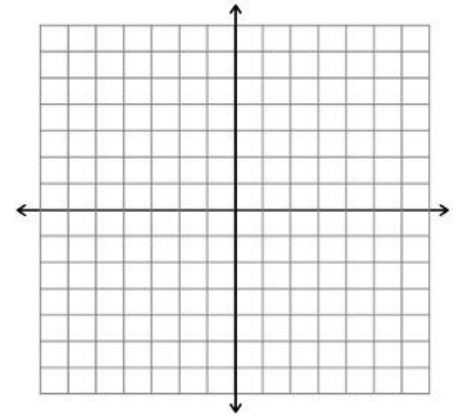
$$15. f(x) = \begin{cases} x, & \text{if } x < -1 \\ 1, & \text{if } x = -1 \\ 2x-3, & \text{if } x > -1 \end{cases}$$



D: _____

R: _____

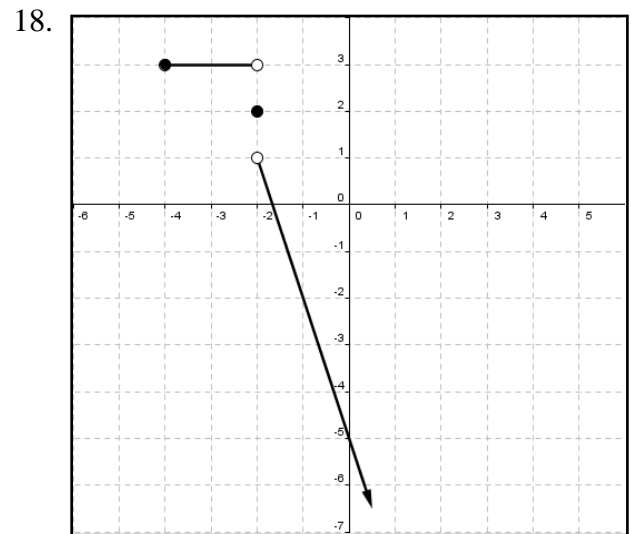
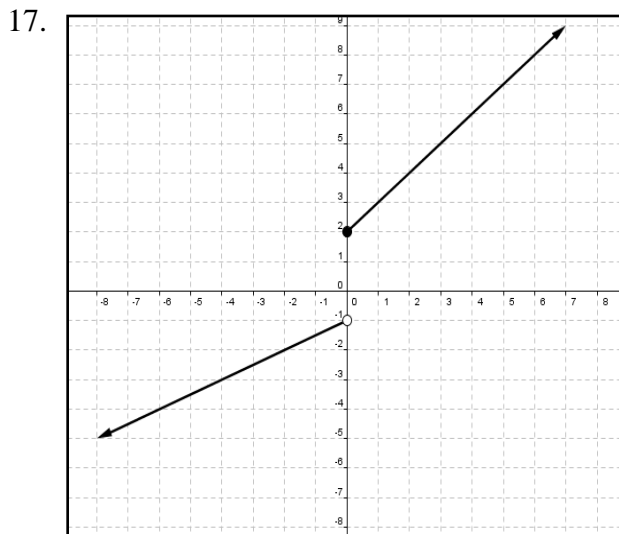
$$16. f(x) = \begin{cases} 1, & \text{if } -2 \leq x < -1 \\ 0, & \text{if } -1 \leq x < 0 \\ -1, & \text{if } 0 \leq x < 1 \\ -2, & \text{if } 1 \leq x < 2 \end{cases}$$



D: _____

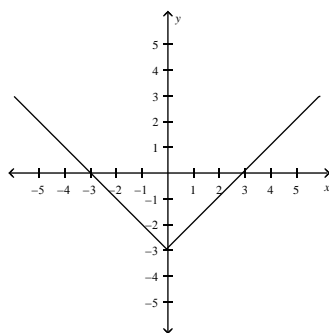
R: _____

In 17 - 18, write a rule for the piecewise function.

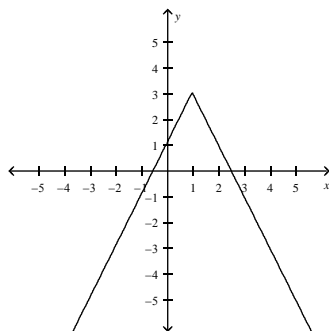


In 19 - 21, write an equation for each graph shown.

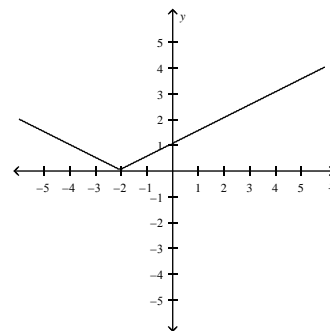
19.



20.



21.

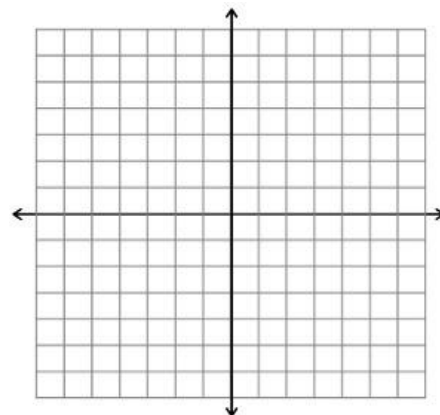
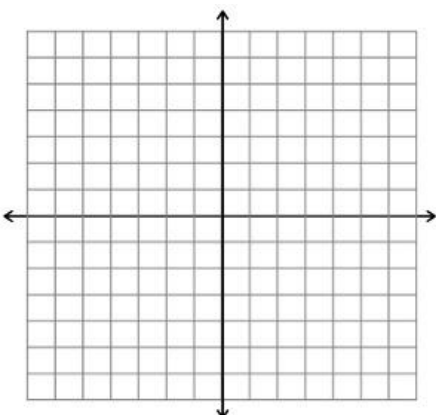
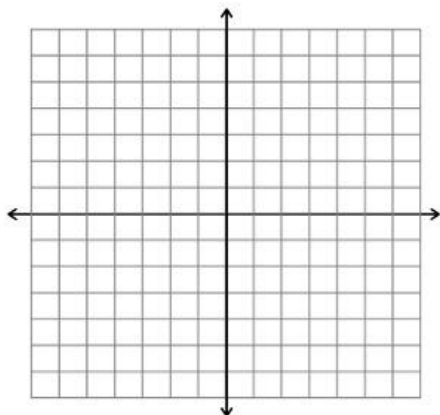


In 22 - 24, graph the absolute value function. State the domain and range.

22. $f(x) = 2|x + 1| + 3$

23. $f(x) = \frac{1}{3}|x - 2|$

24. $f(x) = -|x + 1| - 2$



D: _____

D: _____

D: _____

R: _____

R: _____

R: _____

In 25 - 27, solve each three-variable system. SHOW ALL WORK!!

25. $2x - y + 2z = 15$
 $-x + y + z = 3$
 $3x - y + 2z = 18$

26. $a + b = 3$
 $-b + c = 3$
 $a + 2c = 18$

27. $2x + 3y + 4z = 2$
 $5x - 2y + 3z = 0$
 $x - 5y - 2z = -4$