2.6 – 2.8 Quiz REVIEW

2G Piecewise functions

Evaluate the piecewise functions for each given value.

1. $f(x) = \begin{cases} 5, & \text{if } x \le -6 \\ -9, & \text{if } -6 < x < 6 \\ 0, & \text{if } x \ge 6 \end{cases}$

a. f (0) =

b. f (6) =

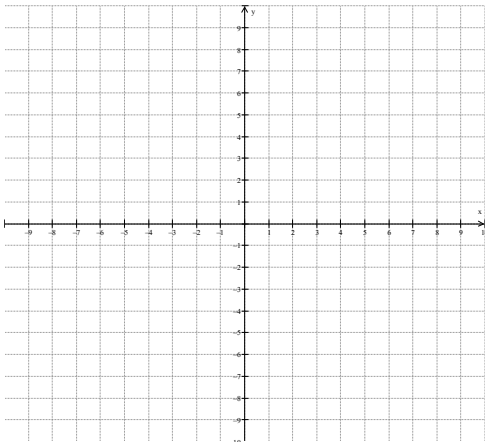
2. $f(x) = \begin{cases} -3x + 2, & \text{if } x < -2 \\ x + 5, & \text{if } -2 \le x \le 5 \\ |x - 17|, & \text{if } x > 5 \end{cases}$

a. f (9) =

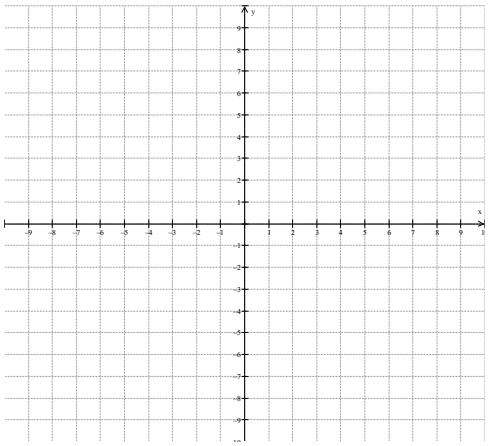
b. f (-4) =

Graph the following piecewise functions.

3. $f(x) = \begin{cases} -5, & \text{if } x > -1 \\ -3x + 1, & \text{if } x \le -1 \end{cases}$

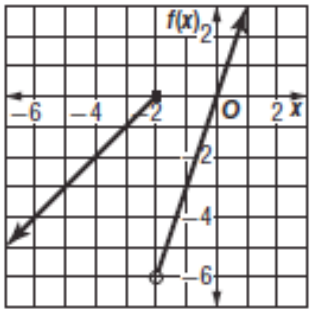


4. $f(x) = \begin{cases} 2x + 5, & \text{if } x < -4 \\ 3 & \text{if } -4 \le x \le 4 \\ 2x - 3, & \text{if } x > 4 \end{cases}$



Write a piecewise function for each graph.

5.



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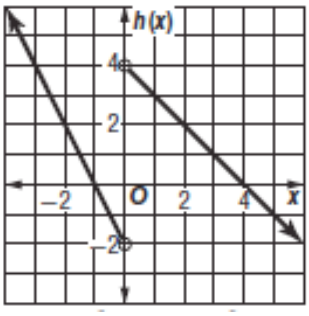
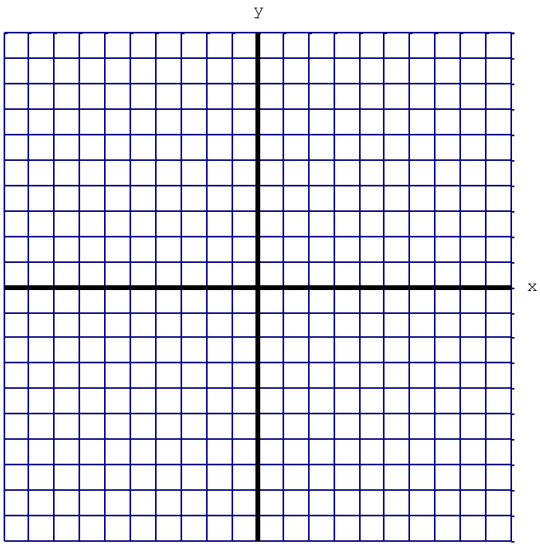


2H Transformations

Use the indicated transformations to graph the following quadratic functions:

7. $f(x) = 2(x+3)^2 - 3$

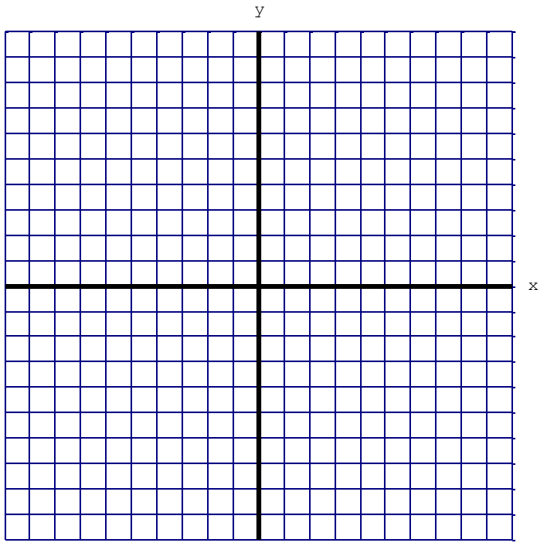


Parent Function

x	y

Vertex: _____

8. $f(x) = -\frac{1}{2}|x-1|+5$



Parent Function

x	y

Vertex: _____

Identifying transformations.

9. $g(x) = \frac{1}{3}(x-4)^2 + 2$

parent function:

transformation:

10. $f(x) = -|x+7|$

parent function:

transformation:

11. Let g(x) be a horizontal translation left 2 units followed by a vertical translation up 5 units of the function $f(x) = 3(x-4)^2 - 2$. Write the rule for g(x).

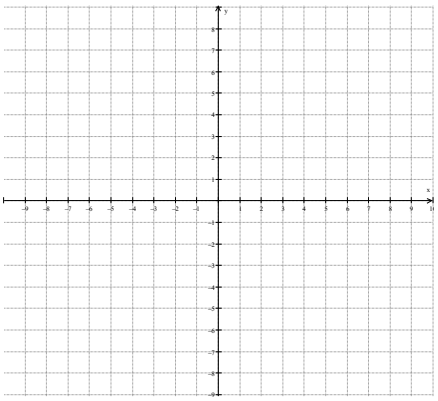
12. Let g(x) be a vertical stretch by a factor of 4 of the function $f(x) = 3(x-4)^2 - 2$. Write the rule for g(x).

13. Let g(x) be a vertical translation 6 units up, followed by a vertical reflection over the x axis of $f(x) = x^2 - 4$. Write the rule for g(x).

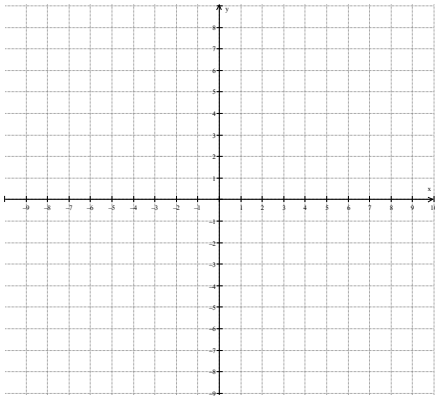
14. Let $g(x)$ be a horizontal translation left 3 units, followed by a vertical compression of $\frac{1}{2}$ and then a reflection over the x-axis of $f(x) = |x|$. Write the rule for $g(x)$.

2I Graphing linear & absolute value inequalities.

15. $5x + 4y \leq 20$

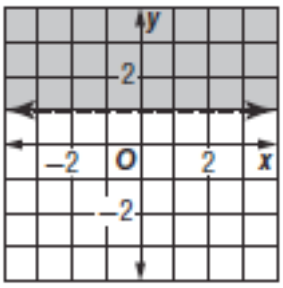


16. $y \geq |x - 2| - 3$

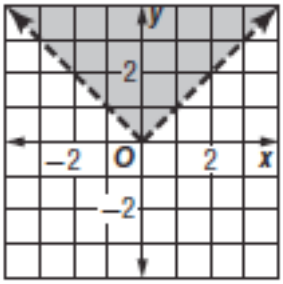


Writing inequalities from graphs.

17.



18.



19.