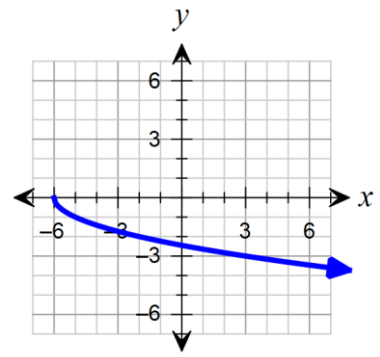
SM 2

Name:_____ Period:_____

SM2 Analyzing Functions & Transformations Test Review

Find the domain and range of each function.

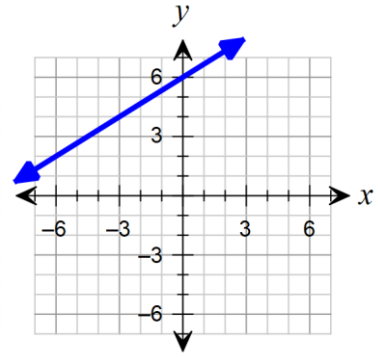
1. $f(x) = -\sqrt{x+6}$



Domain:_____

Range:_____

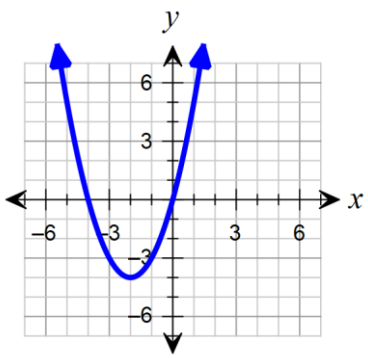
2. $f(x) = \frac{2}{3}x + 6$



Domain:_____

Range:_____

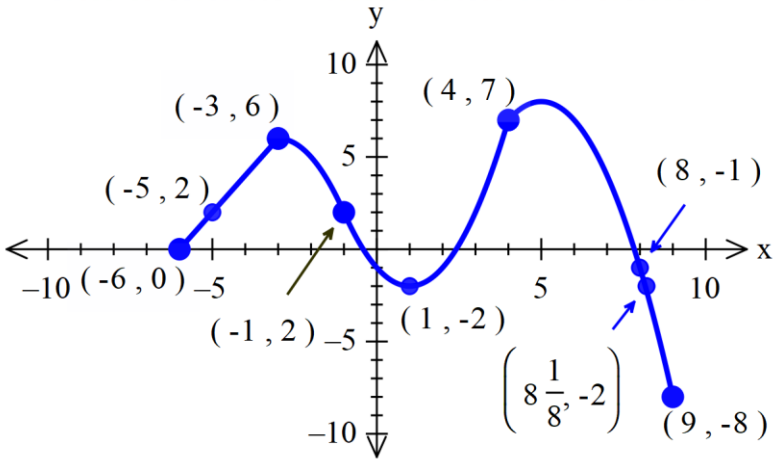
3. $f(x) = x^2 + 4x$



Domain:_____

Range:_____

The graph of $y = f(x)$ is shown below. Use it to answer the following questions.



4. Find $f(1)$.

5. Find $f(-5)$.

6. For what values of x is $f(x) = -2$?

7. For what values of x is $f(x) = -8$?

Find each value if $f(x)=x^2-3x+4$, $g(x)=3x-5$, and $h(x)=\frac{x}{4-2x}$. Leave your answers as simplified fractions, if necessary. Show all your work.

8. $f(-2)$ 9. $g(-3)$ 10. $h(1)$

For each graph, do the following:

1. **Identify the parent graph ($y=|x|$, $y=x^2$, or $y=\sqrt{x}$).**
2. **Fill in the *x*, *y* table for the parent graph.**
3. **Draw the graph of the parent graph with a dashed line.**
4. **List the transformations in the correct order.**
5. **Make a second *x*, *y* table to apply the reflections and stretches/compressions.**
6. **Make a third and final *x*, *y* table to apply the translations.**
7. **Draw the final graph with a solid line.**
8. **State the vertex or endpoint and domain of the final graph.**

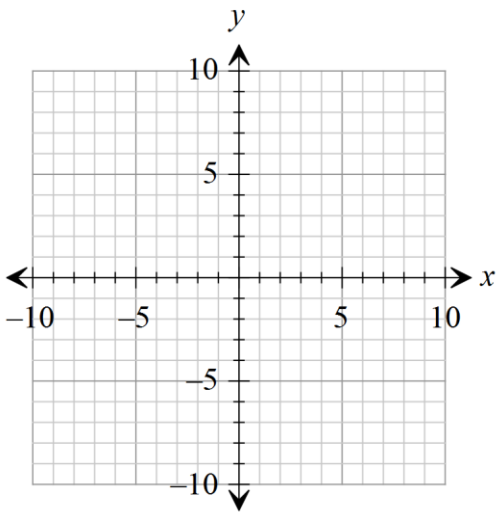
11. Graph this function: $g(x)=\frac{1}{4}|x-2|-6$

Parent Graph:_____

Transformations: 1.

2.

3.



x	*y*
–2	
–1	
0	
1	
2	

x	*y*

x	*y*

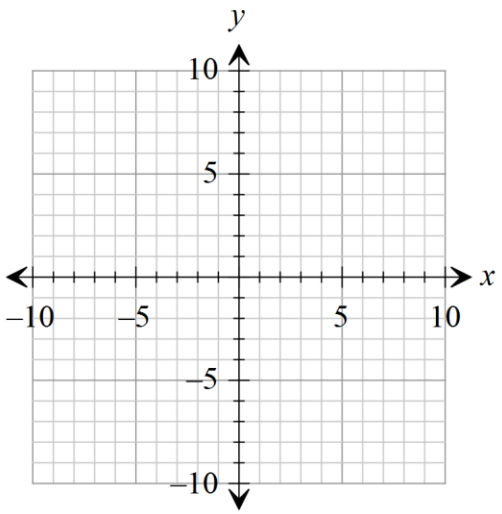
Vertex:_____ Domain:_____

12. Graph this function: $y = \sqrt{x+6} - 5$

Parent Graph:_____

Transformations: 1.

2.



x	y
0	
1	
4	

x	y

x	y

Endpoint:_____ Domain:_____

13. Graph this function: $f(x) = -2(x+1)^2 + 4$

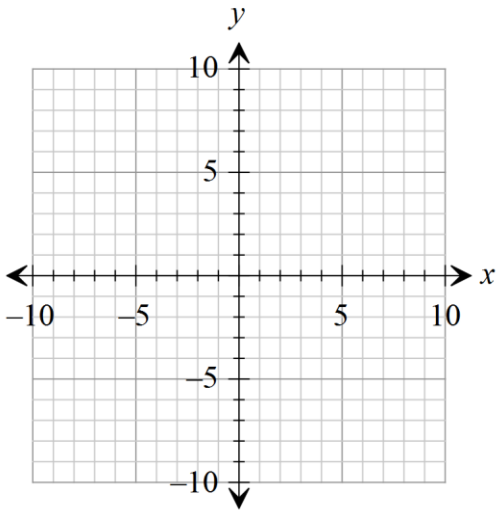
Parent Graph:_____

Transformations: 1.

2.

3.

4.



x	y
-2	
–1	
0	
1	
2	

x	y

x	y

Vertex:_____ Domain:_____