

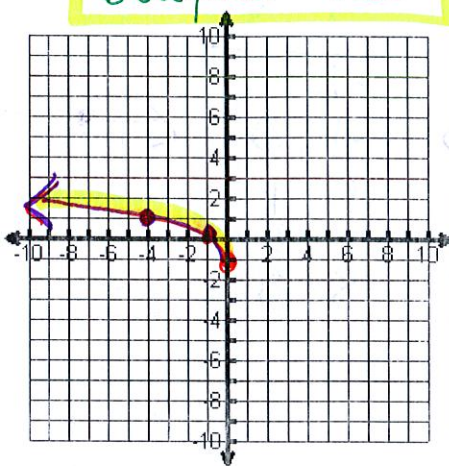
Name key

Date _____

1. $f(x) = \sqrt{-x-1}$ "bouquet toss"

$(0, -1)$

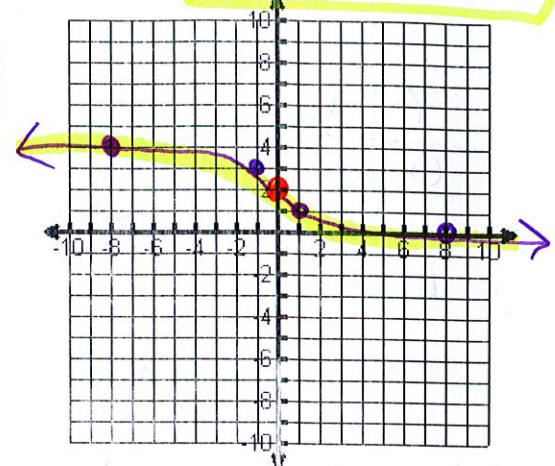
x	y
0	-1
-1	0
-4	1



2. $f(x) = \sqrt[3]{x} + 2$ "back stroke"

$(0, 2)$

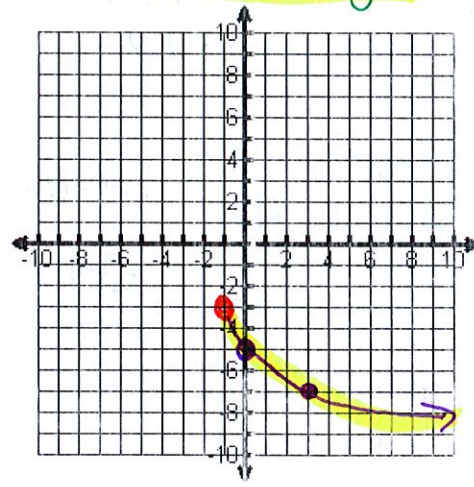
x	y
-8	4
-1	3
0	2
1	1
8	0



3. $f(x) = -2\sqrt{x+1} - 3$ "bowling"

$(-1, -3)$

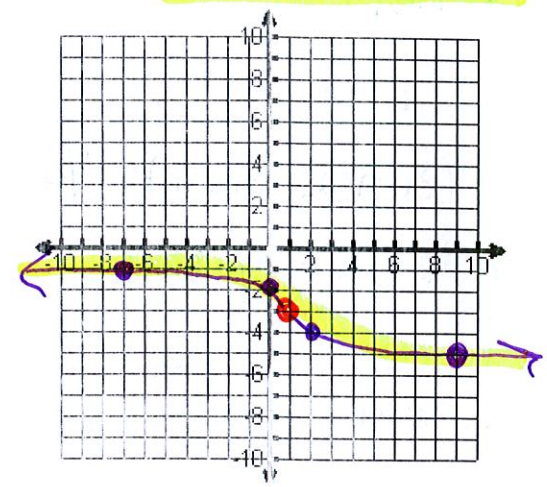
x	y
-1	-3
0	-5
3	-7



4. $f(x) = \sqrt[3]{x-1} - 3$ "back stroke"

$(1, -3)$

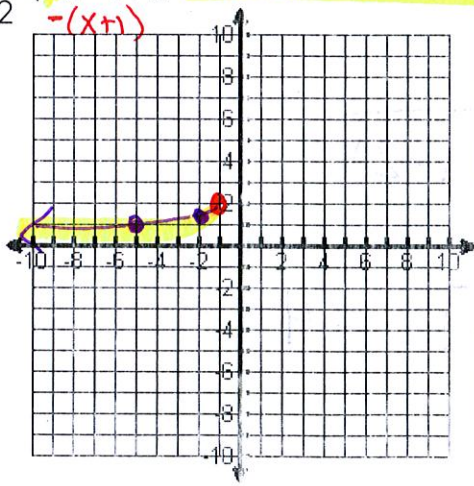
x	y
-7	-1
0	-2
1	-3
2	-4
9	-5



* 5. $f(x) = \frac{-1}{2}\sqrt{-x-1} + 2$ "bread crumbs"

$(-1, 2)$

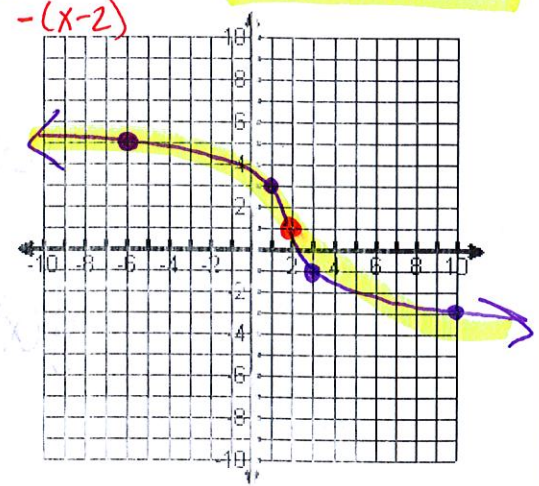
x	y
-1	2
-2	1.5
-5	1



* 6. $f(x) = 2\sqrt[3]{-x+2} + 1$ "back stroke"

$(2, 1)$

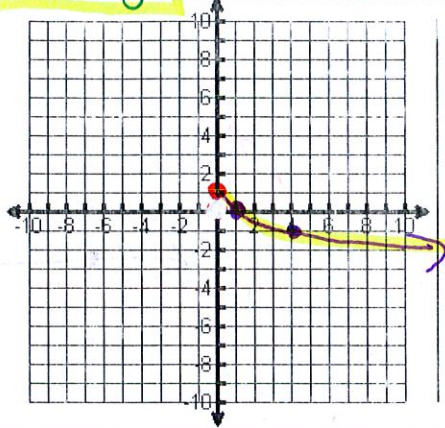
x	y
-6	5
1	3
2	1
3	-1
10	-3



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

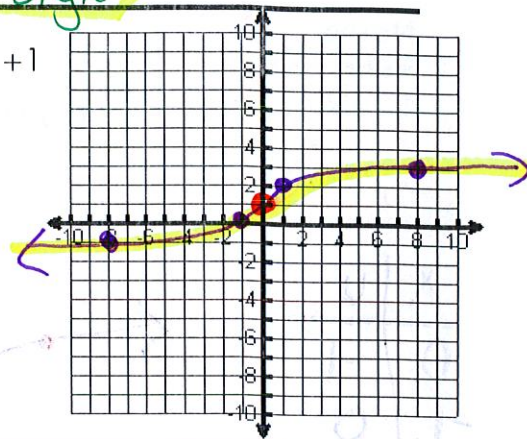
 $(0, 1)$

x	y
0	1
1	0
4	-1



8. $f(x) = -\sqrt[3]{-x} + 1$

x	y
-8	-1
-1	0
0	1
1	2
8	3

Using $f(x) = \sqrt{x}$ as a guide, describe the transformation.

9. $f(x) = \sqrt{3(x+5)}$

- Horizontal shrink $1/3$
- Left 5

10. $f(x) = \frac{1}{4}\sqrt{-x}$

- Vertical shrink $1/4$
- Reflect y-axis

11. $f(x) = \sqrt{x+4} - 1$

- Left 4
- Down 1

12. $f(x) = -4\sqrt{x} + 1$

- Reflect x-axis
- Vertical stretch 4
- Up 1

13. $f(x) = 3\sqrt{-x} + 2$

- Vertical stretch 3
- Reflect y-axis
- Up 2

14. $f(x) = \sqrt[3]{x+2}$

- Horizontal stretch 3
- Left 2

Use the description to write the square-root function g .15. The parent function $f(x) = \sqrt{x}$ is compressed vertically by a factor of $1/3$ and then translated 3 units left.

$$g(x) = \frac{1}{3}\sqrt{x+3}$$

16. The parent function $f(x) = \sqrt{x}$ is reflected across the y-axis, stretched horizontally by a factor of 6, and then translated 2 units right.

$$g(x) = \sqrt{-\frac{1}{6}(x-2)}$$

17. The parent function $f(x) = \sqrt{x}$ is reflected across the x-axis and then translated 1 unit left and 4 units down.

$$g(x) = -\sqrt{x+1} - 4$$

18. The parent function $f(x) = \sqrt{x}$ is reflected across the y-axis, vertically stretched by a factor of 7, and then translated up 5 units.

$$g(x) = 7\sqrt{-x} + 5$$