Today's Plan:

Learning Target (standard): I will describe and graph functions as composites of transformations.

Students will: Complete practice problems over previous concepts at the boards, put up homework problems on the board and make necessary corrections to their own work, and take a quiz.

Teacher will: Provide practice problems over previous concepts, check homework problems for accuracy and provide students feedback, describe and provide quiz problems.

Assessment: Board work, homework check and quiz

Differentiation: Students will work at the board, go over and correct homework at their seats, actively engage in assessment problems on quiz.

Go over your graphs with someone in class.

$f(x) = |x|$

- reflected over y-axis
- vertically stretched by 2
- shift left 3

1) $f(x) = |-x|$

2) $f(x) = 2|-x|$

3) $f(x) = 2|-(x+3)|$

$\rightarrow f(x) = 2|-x-3|$

$f(x) = \sqrt{x}$

- reflected over x-axis
- vertically compressed by 1/2
- horizontally stretched by 3
- shifted up 4

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

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

3) $f(x) = -\frac{1}{2}\sqrt{\frac{1}{3}x}$

4) $f(x) = -\frac{1}{2}\sqrt{\frac{1}{3}x} + 4$

Graph using Transformations. Find the domain and range.

$$f(x) = -2\left(\frac{1}{2}x - 2\right)^2 + 5$$

parent: $f(x) = x^2$

1) $f(x) = -x^2$ r.x

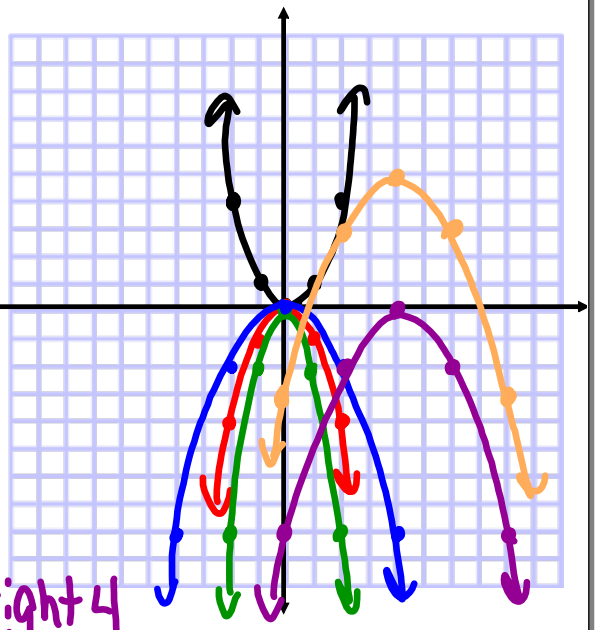
2) $f(x) = -2x^2$ v.s. by 2

3) $f(x) = -2\left(\frac{1}{2}x\right)^2$ h.s. by 2

4) $f(x) = -2\left(\frac{1}{2}(x-4)\right)^2$ shift right 4

5) $f(x) = -2\left(\frac{1}{2}x-2\right)^2 + 5$ shift up 5

x	y
-2	4
-1	1
0	0
1	1
2	4



D: $\mathbb{R}$

R: $\{y \mid y \leq 5\}$