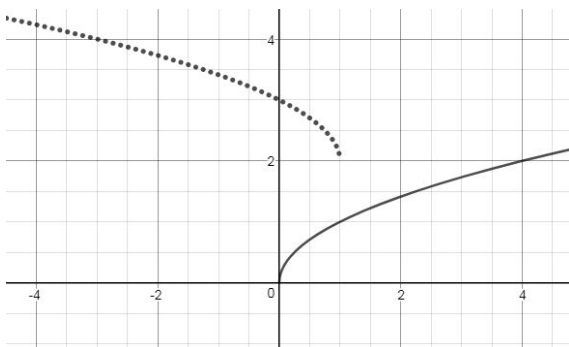


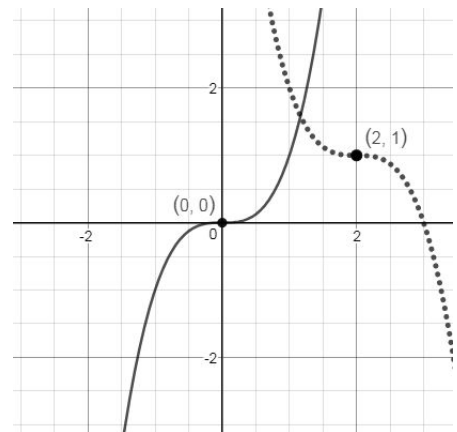
1. Write the equation that represents each function described below:
 - a. Parent Absolute Value function is shifted 2 units right and 4 units up.
 - b. Parent Square Root function is reflected over the y-axis and stretched vertically by a factor of 3.
 - c. Parent Cubic function is compressed vertically by a factor of $\frac{1}{4}$, translated left 3 units and down 5 units.
 - d. Parent Quadratic function is reflected over the x-axis, stretched vertically by a factor of 3 and shifted down 4 units.
 - e. Parent Cube Root function is shifted down 2 units and compressed horizontally by a factor of 0.4.
 - f. Parent Rational function is reflected over the x-axis, shifted left 4 units and up 5 units.

2. Describe the transformations used to go from the solid graph, $f(x)$, to the dotted graph, $g(x)$. Be specific.

a.



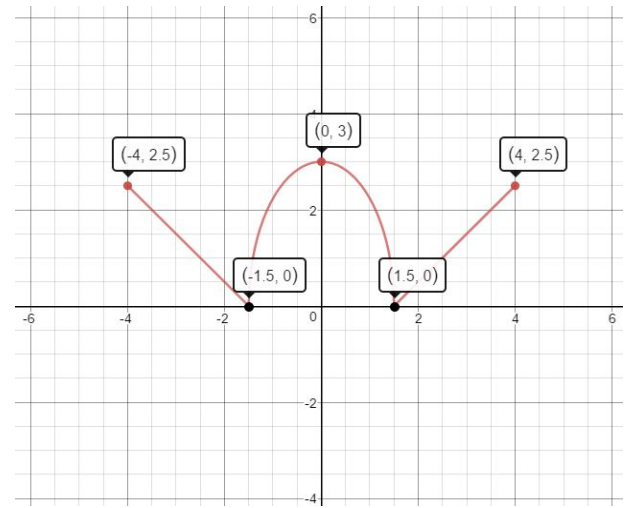
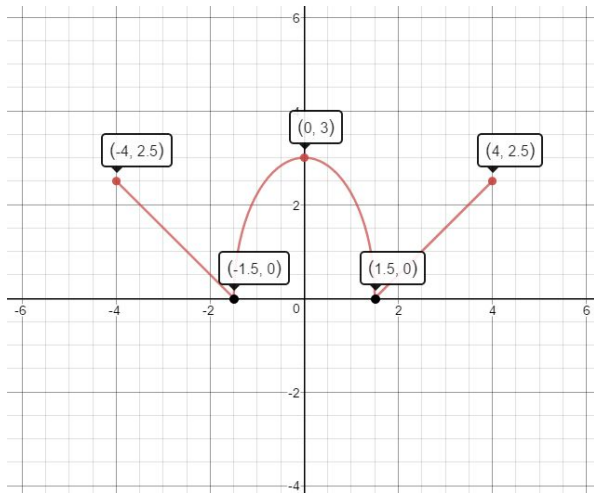
b.



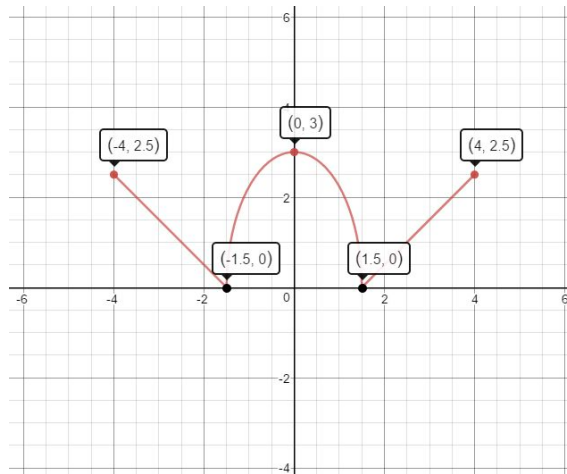
3. The graph shows the function $h(x)$. Sketch the graph of

a. $h(x-2)+1$

b. $-h(x)-1$



c. $-h(x+2)$



4. Convert each quadratic function below to graphing form by Completing the Square and write down the vertex of the parabola.

a. $f(x) = x^2 + 6x + 30$

b. $g(x) = x^2 + 10x - 8$

c. $h(x) = x^2 + 5x + 10$