1. A function $f(x)$ is the result of applying the transformations below to $R(x)=\sqrt[3]{x}$.

Write a function rule for $f(x)$. $f(x)=$ _____

1st Translate (Shift or Slide) the points of the parent function 1 units to the right.

2nd Compress (Squeeze) the points of the graph horizontally to positions $\frac{3}{5}$ as far from the y-axis.

3rd Compress (Squeeze) the points of the graph vertically to positions $\frac{1}{2}$ as far from the x-axis.

4th Translate (Shift or Slide) the points of the graph 10 units down.

2. A function $g(x)$ is the result of applying the transformations below to $T(x) = |x|$.

Write a function rule for $g(x)$. $g(x)=$ _____

1st Translate (Shift or Slide) the points of the parent function 5 units to the left.

2nd Expand (Stretch) the points of the graph horizontally to positions 6 times as far from the y-axis.

3rd Reflect the points of the graph over the y-axis.

4th Expand (Stretch) them vertically to positions 4 times as far from the x-axis.

5th Translate (Shift or Slide) the points of the graph 2 units down.

3, A function $h(x)$ is the result of applying the transformations below to $C(x) = \frac{1}{x}$.

Write a function rule for $h(x)$. $h(x)=$ _____

1st Translate (Shift or Slide) the points of the parent function 2 units to the right.

2nd Compress (Squeeze) the points of the graph horizontally to positions $\frac{1}{4}$ as far from the y-axis.

3rd Expand (Stretch) the points of the graph vertically to positions 3 times as far from the x-axis.

4th Reflect the points of the graph over the x-axis.

5th Translate (Shift or Slide) the points of the graph 6 units up.

4. A function $r(x)$ is the result of applying the transformations below to $S(x) = (x)^2$.

Write a function rule for $r(x)$. $r(x)=$ _____

1st Translate (Shift or Slide) the points of the parent function 7 unit to the left.

2nd Expand (Stretch) the points of the graph horizontally to positions 3 as far from the y-axis.

3rd Reflect the points of the graph over the y-axis.

4th Reflect the points of the graph over the x-axis.

5th Compress (Squeeze) the points of the graph vertically to positions $\frac{2}{3}$ as far from the x-axis.

6th Translate (Shift or Slide) the points of the graph 9 units up.

5. Describe the graph of $h(x) = 5\sqrt{3x + 2} + 1$ as a transformation from the parent function $P(x) = \sqrt{x}$.

1st _____

_____

2nd _____

_____

3rd _____

_____

4th _____

_____

5th _____

6. Describe the graph of $g(x) = 3\left(-\frac{1}{2}x + 6\right)^2 - 2$ as a transformation from the parent function $Q(x) = x^2$

1st _____

_____

2nd _____

_____

3rd _____

_____

4th _____

_____

5th _____

7. Describe the graph of $f(x) = -\frac{1}{3}\left|\frac{3}{2}x - 5\right| + 4$ as a transformation from the parent function $N(x) = |x|$.

1st _____

_____

2nd _____

_____

3rd _____

_____

4th _____

_____

5th _____