WAST Transformations (3) Name _____

Given $f(x) = x^2$ find $g(x)$ when the function is ____

1) Translated 2 units up

$g(x) = |x| + 2$

2) translated 3 units to the right

$g(x) = |x - 3|$

3) reflected over the x axis

$g(x) = -|x|$

4) reflected over the y axis

$g(x) = |-x|$

5) vertically stretched by 2

$g(x) = 2|x|$

6) vertically compressed by 0.5

$g(x) = 0.5|x|$

7) horizontally stretched by 3

$g(x) = f\left(\frac{1}{3}x\right)$

$g(x) = \left|\frac{1}{3}x\right|$

8) horizontally compressed by 2 $\frac{1}{2} = 2$

$g(x) = f(2x)$

$g(x) = |2x|$

Given $f(x) = \sqrt{x}$ find $g(x)$ when the function ____

1) Translated 3 units down and 3 units right

$g(x) = \sqrt{(x - 3)} - 3$

2) translated 5 units to the left and 5 units up

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

3) reflected over the x axis

$g(x) = -\sqrt{x}$

4) reflected over the y axis

$g(x) = \sqrt{-x}$

5) vertically stretched by 4

$g(x) = 4\sqrt{x}$

6) vertically compressed by $\frac{1}{3}$

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

7) horizontally stretched by $\frac{1}{2}$

$g(x) = \sqrt{2x}$

8) horizontally compressed by $\frac{1}{2}$

$g(x) = \sqrt{8x}$

9) vertically stretched by $\frac{1}{2}$

$g(x) = \sqrt{\frac{1}{8}x}$

10) translated 5 units to right and 5 units down

$g(x) = \sqrt{(x - 5)} - 2$