WHAT transformation (s)

Name _____

Given $f(x) = x^2$ find and graph the function g ...

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 3

$g(x) = 3|x|$

6) vertically compressed by 0.5

$g(x) = 0.5|x|$

7) horizontally stretched by 4

$g(x) = f\left(\frac{1}{4}x\right)$

$g(x) = \left|\frac{1}{4}x\right|$

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

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

$g(x) = |2x|$

Given $f(x) = \sqrt{x}$ find, graph and describe the transformation ...

9) Translated 3 right, stretched by 2, and 5 down

$g(x) = 2\sqrt{(x-3)} - 5$

10) translated 4 right and 3 up, reflected over the x axis, & 2 units up

$g(x) = -\sqrt{(x-4)} + 3 + 2$

11) reflected over the x axis

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

12) reflected over the y axis

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

13) vertically stretched by 4

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

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

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

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

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

16) horizontally stretched by $\frac{1}{3}$

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

17) vertically stretched by 2, reflected over the x axis, & 1 unit down

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

18) horizontally stretched by 3, translated 2 right & 4 up

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