

(EXTRA)

Transformations and Arbitrary Functions Practice

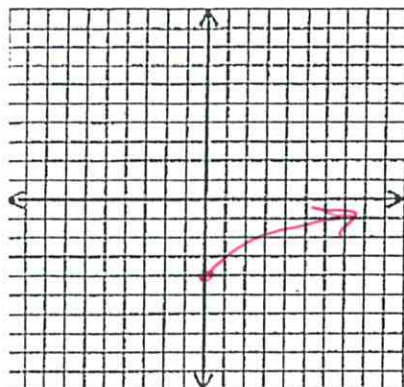
Name:

Key

1. $h(x) = \sqrt{x} - 4$

Describe the transformations:

Translation 4D



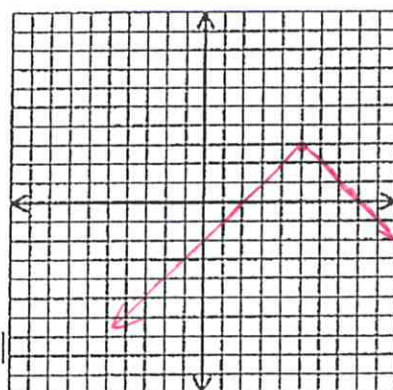
Domain: $[0, \infty)$

Range: $[-4, \infty)$

2. $f(x) = -|x - 5| + 3$

Describe the transformations:

Translation 5R, 3U
Vertical Reflection



Domain: $(-\infty, \infty)$

Range: $(-\infty, 3]$

3) Write the equation for the function described.

Start with the graph of $f(x) = x^2$. Reflect it across the x-axis and shift it to the right 3 units and up 5 units

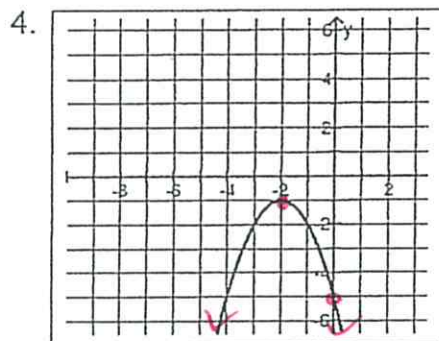
$a = -1$

$h = 3$

$k = 5$

$$y = -(x - 3)^2 + 5$$

Write the equation for the given graph.



parent $y = x^2$

Translated 2L, 1D

$h = -2$ $k = -1$

$(0, -5)$

$$y = a(x - -2)^2 + -1$$

$$y = a(x + 2)^2 - 1$$

$$-5 = a(0 + 2)^2 - 1$$

$$-5 = 4a - 1$$

$$+1 \quad +1$$

$$-4 = 4a$$

$$a = -1$$

$$y = -(x + 2)^2 - 1$$