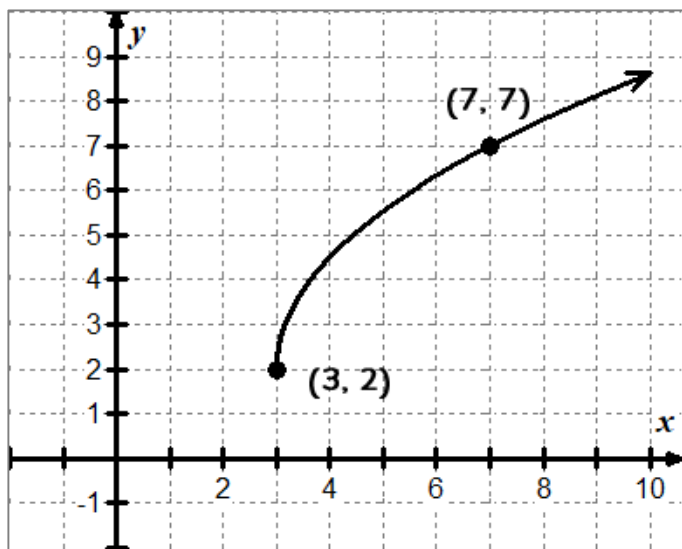


**Graphically**

Given the graph below, write the model for standard form of a radical equation:

\_\_\_\_\_



**Numerically**

Use the ordered pairs on the graph and the standard form of the equation to find the "a" value.

**Algebraically**

Write the standard form of the radical equation. Use this equation to find the value for  $x$  when  $y = 19.5$ .

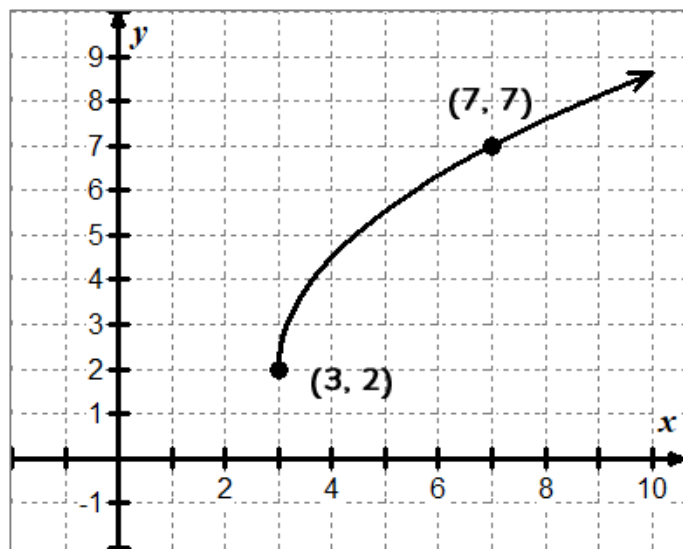
**Verbally**

1. State the domain of the function.
2. State the range of the function.
3. Identify the values of  $h$  and  $k$ .
4. Describe the translation of the function from the parent graph  $y = \sqrt{x}$

## Graphically

Given the graph below, write the model for standard form of a radical equation:

$$y = a\sqrt{x-h} + k$$



## Numerically

Use the ordered pairs on the graph and the standard form of the equation to find the "a" value.

$$7 = a\sqrt{7-3} + 2$$

$$5 = a\sqrt{4}$$

$$5 = 2a$$

$$a = 2.5$$

$$y = 2.5\sqrt{x-3} + 2$$

## Algebraically

Write the standard form of the radical equation. Use this equation to find the value for x when y = 19.5.

$$y = 2.5\sqrt{x-3} + 2$$

$$19.5 = 2.5\sqrt{x-3} + 2$$

$$17.5 = 2.5\sqrt{x-3}$$

$$7 = \sqrt{x-3}$$

$$49 = x - 3$$

$$x = 52$$

## Verbally

1. State the domain of the function.

$$[3, \infty)$$

2. State the range of the function.

$$[2, \infty)$$

3. Identify the values of h and k.

$$h = 3, k = 2$$

4. Describe the translation of the function from the parent graph  $y = \sqrt{x}$

*The parent function have a vertical stretch by a factor of 2.5, is translated 3 units right and 2 units up.*