Algebra 2 Bellwork Thursday, May 7, 2015

Equation for a Square Root Function: $y = a\sqrt{x-h}+k$

1. Describe the transformations that each square root function represents.

a) $y = 8\sqrt{x+4}+1$ b) $y = -3\sqrt{x-9}$ c) $y = \sqrt{-(x+11)}-6$

2. Write the equation of each square root function using the given description of all the transformations.

a) 5 times taller, moved 9 units right, 2 units down, and an x-axis reflection (upside down).

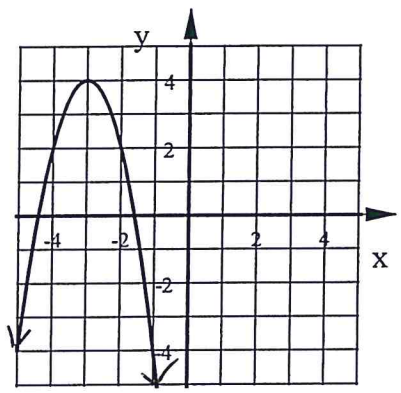
$y =$

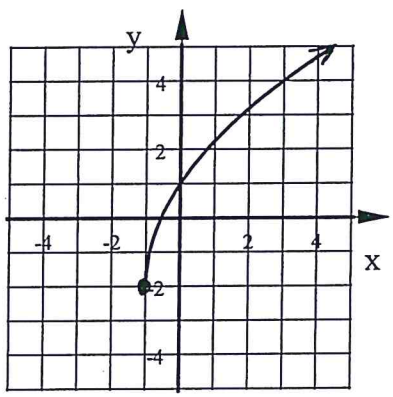
b) Half as tall, moved 1 unit left, 7 units up, and a y-axis reflection (backwards).

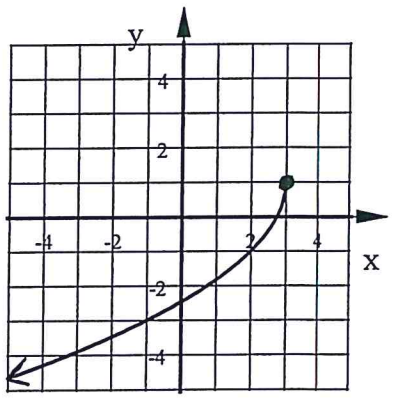
$y =$

3. State the Domain and Range of the relation in each graph.

a) b) c)

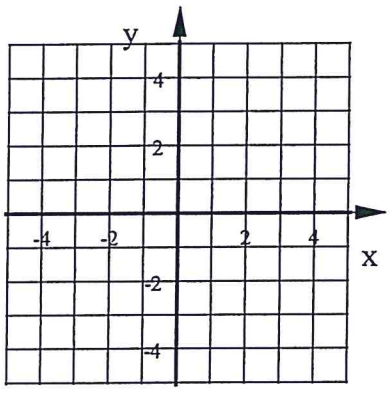


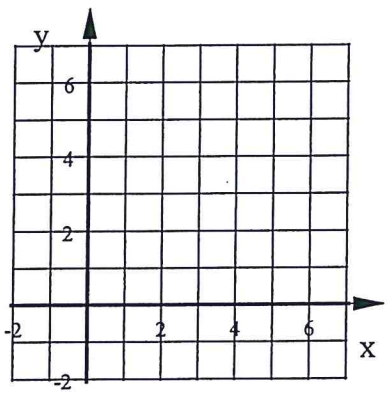


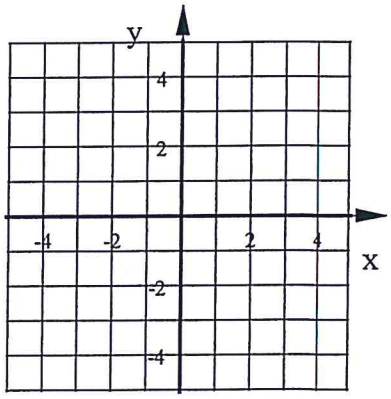


4. Graph each square root function using three points.

a) $y = 2\sqrt{x+1}-3$ b) $y = -4\sqrt{x}+7$ c) $y = 3\sqrt{-(x-5)}-4$







Algebra 2 Bellwork Thursday, May 7, 2015

ANSWERS

Equation for a Square Root Function: $y = a\sqrt{x-h}+k$

1. Describe the transformations that each square root function represents.

a) $y = 8\sqrt{x+4}+1$
- 4 Left
- 1 up
- 8 times taller

b) $y = -3\sqrt{x-9}$
- 9 Right
- 3 times taller
- upside down

c) $y = \sqrt{-(x+11)}-6$
- 11 Left
- 6 down
- Backwards

2. Write the equation of each square root function using the given description of all the transformations.

a) 5 times taller, moved 9 units right, 2 units down, and an x-axis reflection (upside down).

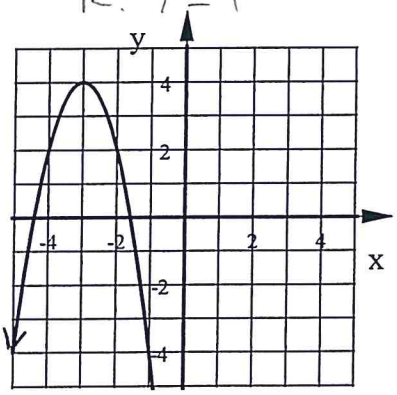
$y = -5\sqrt{x-9}-2$

b) Half as tall, moved 1 unit left, 7 units up, and a y-axis reflection (backwards).

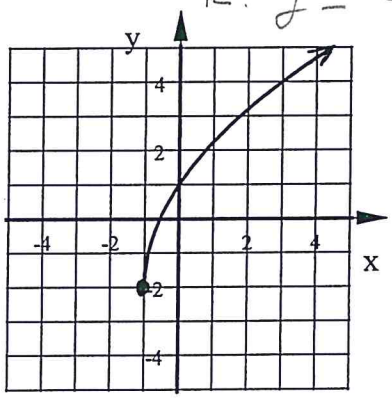
$y = \frac{1}{2}\sqrt{-(x+1)}+7$

3. State the Domain and Range of the relation in each graph.

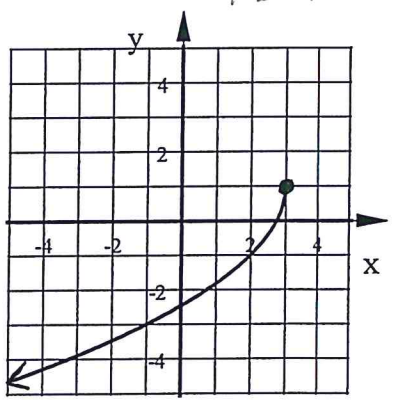
a) D: R
R: $y \le 4$



b) D: $x \ge -1$
R: $y \ge -2$

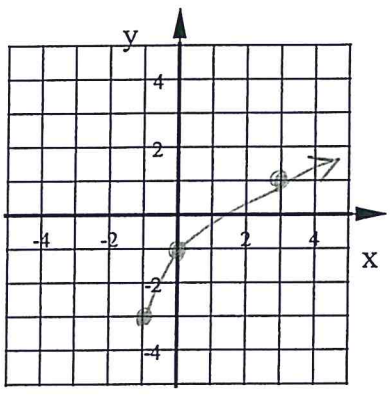


c) D: $x \le 3$
R: $y \le 1$



4. Graph each square root function using three points.

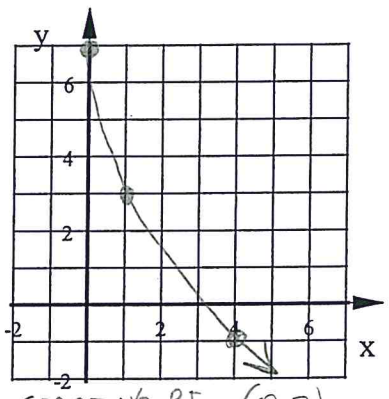
a) $y = 2\sqrt{x+1}-3$



STARTING POINT
$(-1,-3)$
- 2 Times Taller

$1 \times 2 = 2$
$2 \times 2 = 4$

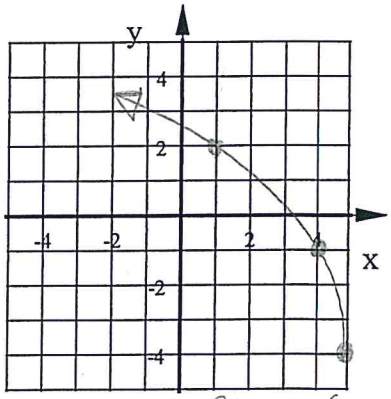
b) $y = -4\sqrt{x}+7$



STARTING PT $(0,7)$
- 4 Times taller
- upside down

$1 \times -4 = -4$

c) $y = 3\sqrt{-(x-5)}-4$



STARTING POINT $(5,-4)$
- 3 Times taller
- Backwards

$1 \times 3 = 3$
$2 \times 3 = 6$