Name: _____ Period: _____

Practice Worksheet:
Graphing Radical Functions

Graph each radical function and describe its characteristics. Round irrational values to one decimal place.

1] $y = 2\sqrt[3]{x-4} + 2$

Center point: _____   y-intercept: _____

Guide points using a:

Extra guide points:
  (-4, _____) and (7, _____)

Domain: _____   Range: _____

2] $y = 3\sqrt{x+2} - 4$

Endpoint: _____   y-intercept: _____

Guide point using a:

Extra guide points:
  (2, _____) and (7, _____)

Domain: _____   Range: _____

3] $y = -4\sqrt[3]{-(x-1)} - 6$

Center point: _____   y-intercept: _____

Guide points using a:

Extra guide points:
  (4, _____) and (9, _____)

Domain: _____   Range: _____

4] $y = -\frac{1}{2}\sqrt{-x} + \frac{3}{2}$

Endpoint: _____   y-intercept: _____

Guide point using a:

Extra guide points:
(-9, _____) and (-4, _____)

Domain: _____   Range: _____

5] $y = \frac{3}{4}\sqrt[3]{-x} - 4$

Center point: _____   y-intercept: _____

Guide points using a:

Extra guide points:
  (-12, _____) and (2, _____)

Domain: _____   Range: _____

6] $y = -9\sqrt{x-2} + 3$
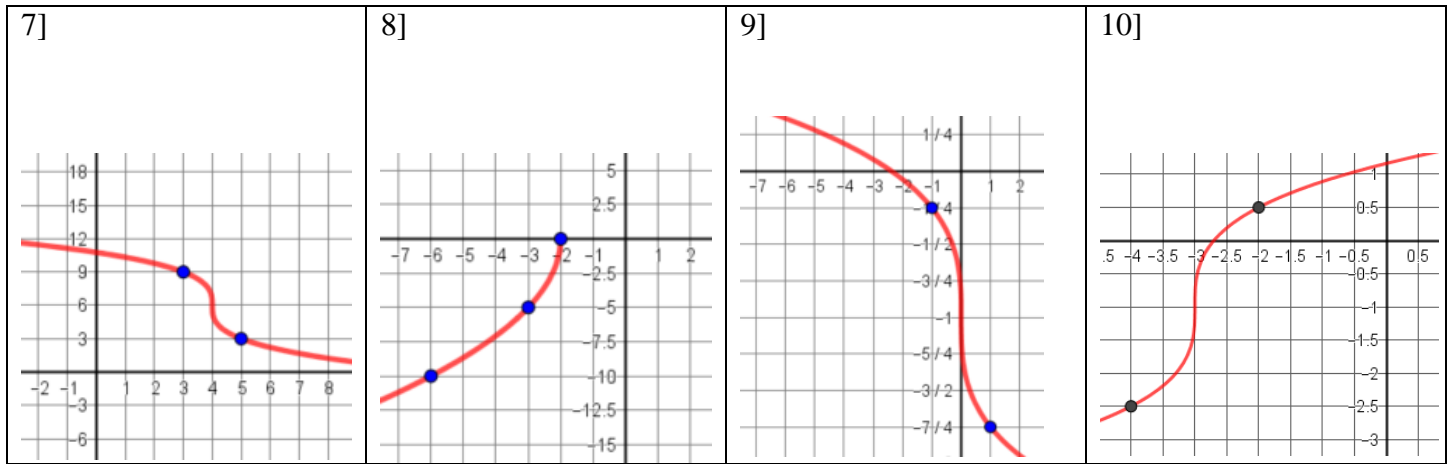
Endpoint: _____   y-intercept: _____

Guide point using a:

Extra guide points:
  (6, _____) and (11, _____)

Domain: _____   Range: _____

Write the equation of the radical function.

7]	8]	9]	10]

Describe each graph as compared to the parent graph.

11] $y = \frac{3}{2}\sqrt{-x + 23} + 3$	12] $y = -\frac{2}{3}\sqrt[3]{x + 23} - 3$
The graph of this _____ _____ function has been translated _____ 3 units and translated _____ units to the _____. It has been _____ in the ____-axis and vertically _____ by a factor of _____. It has a(n) _____ point at _____ and is _____ from left to right. The function has a domain of _____ and a range of _____.	The graph of this _____ _____ function has been translated _____ 3 units and translated _____ units to the _____. It has been _____ in the ____-axis and vertically _____ by a factor of _____. It has a(n) _____ point at _____ and is _____ from left to right. The function has a domain of _____ and a range of _____.

Write the equation that meets the given description. Show all work.

13] A radical function that has a center point at $(4,1)$ and passes through the point $\left(12,\frac{1}{3}\right)$.	14] A radical function that has a domain of $x \le 8$ and a range of $y \ge 15$ that passes through the point $(-8,63)$.	15] A cube root function translated 6 units to the left and down half of a unit that passes through the point $(-7,-8.5)$.