Radical Functions Activity

Name: _____ **Date:** _____

1. State the domain and range of the function $y = \sqrt{x-2}$

   A. $x \geq 2$ and $y \geq 0$ B. $x \neq 0$ and $y \neq 0$

   C. $x \in \mathbb{R}$ and $y \in \mathbb{R}$ D. $x \neq 3$ and $y \in \mathbb{R}$

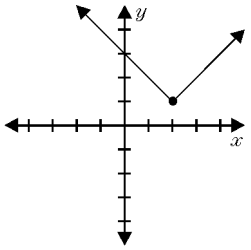
2. Given the graph, describe the domain.

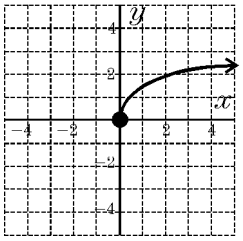
   A. $x \geq 1$

   B. $y \geq 1$

   C. $y > 1$

   D. All Real Numbers



3. 

   What is the domain of the function shown?

   A. $x \geq 0$ B. $y \geq 0$

   C. $x \leq 0$ D. all real numbers

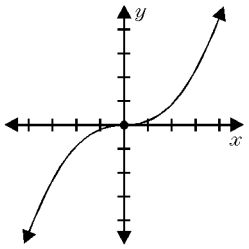
4. Given this graph of a function, describe the domain.

   A. $-3 < y < 3$

   B. $y \leq 5$

   C. $x \leq 5$

   D. All Real Numbers



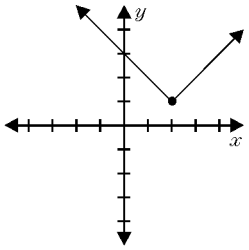
5. Given the graph, describe the range.

   A. $x \geq 1$

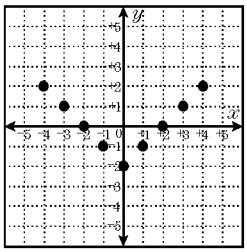
   B. $y \geq 1$

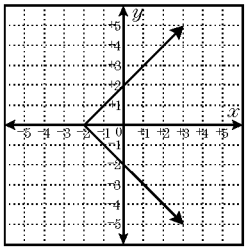
   C. $y > 1$

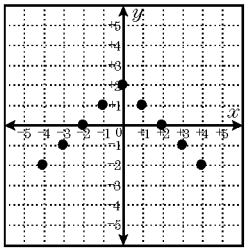
   D. All Real Numbers

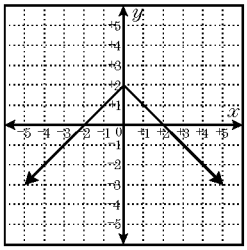


6. When x is a real number, which of the following is the graph of $y = -|x| + 2$?

A. 

B. 

C. 

D. 

7. Let $f(x) = \sqrt{x}$ and $g(x) = 3\sqrt{x}$. Which of the following statements is true about the graphs of the functions?

A. $g(x)$ is a vertical compression of $f(x)$

B. $g(x)$ is a horizontal translation of $f(x)$

C. the domain (but not the range) of $f(x)$ and $g(x)$ is the same

D. $f(x)$ and $g(x)$ have the same domain and range

8. Let $f(x) = \sqrt{x}$, $g(x) = 2\sqrt{x-4} + 6$. Describe $g(x)$ in terms of the parent function, $f(x)$.

$g(x)$ is $f(x)$:

A. vertical shrink, translated left 4 and up 6

B. vertical stretch, translated right 4 and up 6

C. horizontal stretch, translated right 6 and down 4

D. horizontal shrink, translated right 4 and up 6

9. The graph of $y = 3 \cdot f(x)$, compared to the graph of $y = f(x)$, is changed by:

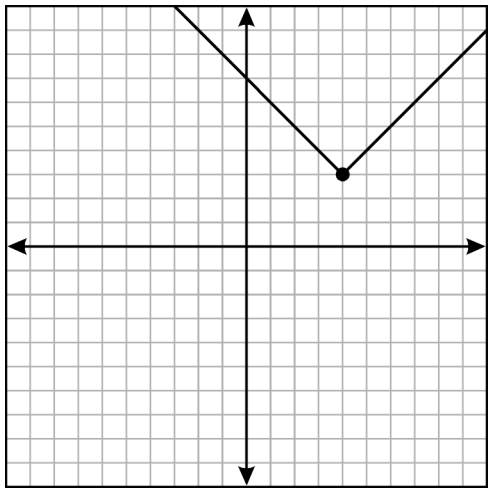
A. horizontal expansion by a factor of 3

B. vertical compression by a factor of $\frac{1}{3}$

C. reflection about the line $y = x$ by a factor of 3

D. vertical expansion by a factor of 3

10. Find the equation of the function which results from translating (shifting) the graph of the function shown down 2 units and left 1 unit.



A. $f(x) = |x - 2| + 3$ B. $f(x) = |x - 1| + 1$

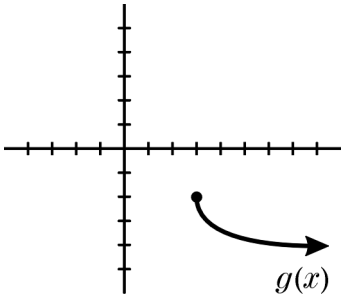
C. $f(x) = |x - 3| + 1$ D. $f(x) = |x + 1| - 2$

11. If the function $y = |x - 1| + 2$ is shifted to the left 5 units, what is the new equation?

A. $y = |x + 4| + 2$ B. $y = |x - 6| + 2$

C. $y = |x - 1| + 7$ D. $y = -5|x - 1| + 2$

12.



The function $g(x)$ is a transformation of $f(x) = \sqrt{x}$. According to the graph above, $g(x) =$

A. $f(-x) - 2$ B. $-f(x) - 2$

C. $f(-x - 3) - 2$ D. $-f(x - 3) - 2$

13. Which equation represents the graph of $y = x^2$ translated 1 unit right and 2 units down?

A. $y = -(x - 1)^2 - 2$ B. $y = (x - 1)^2 - 2$

C. $y = -(x + 1)^2 + 2$ D. $y = (x + 1)^2 - 2$

14. Which relation is a function?

A. $\{(-1, 3), (-2, 6), (0, 0), (-2, -2)\}$

B. $\{(-2, -2), (0, 0), (1, 1), (2, 2)\}$

C. $\{(4, 0), (4, 1), (4, 2), (4, 3)\}$

D. $\{(7, 4), (8, 8), (10, 8), (10, 10)\}$

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Radical Functions Activity 04/11/2014

1.
Answer: A
Objective: F.IF.01

2.
Answer: D
Objective: F.IF.05

3.
Answer: A
Objective: F.IF.05

4.
Answer: D
Objective: F.IF.05

5.
Answer: B
Objective: F.IF.05

6.
Answer: D
Objective: F.IF.07B

7.
Answer: D
Objective: F.BF.03

8.
Answer: B
Objective: F.BF.03

9.
Answer: D
Objective: F.BF.03

10.
Answer: C
Objective: F.BF.03

11.
Answer: A
Objective: F.BF.03

12.
Answer: D
Objective: F.BF.03

13.
Answer: B

14.
Answer: B