READY

Topic: Square Roots

The area of a square is given. Find the length of the side.

1. $16\ in^2$
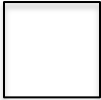
2. $(x-11)^2\ ft^2$

3. $(25a^2 + 60a + 36)\ cm^2$
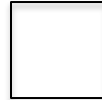
4. If the length of the side of a square is $(\mathbf{x-24})$ **cm**, what do we know about the value of x?

Complete the table of values for $f(\mathbf{x}) = \sqrt{\mathbf{x}}$. Write answers in simplest radical form.

5.

x	$f(x)$
1	
4	
9	
16	
25	
36	
49	
64	
81	
100	

6.

x	$f(x)$
25	
50	
75	
100	
125	
150	
175	
200	
225	
250	

7.

x	$f(x)$
$x^2 - 2x + 1$	
$x^2 - 4x + 4$	
$x^2 - 6x + 9$	
$x^2 - 8x + 16$	
$x^2 - 10x + 25$	
$x^2 - 12x + 36$	
$x^2 - 14x + 49$	
$x^2 - 16x + 64$	
$x^2 - 18x + 81$	
$x^2 - 20x + 100$	

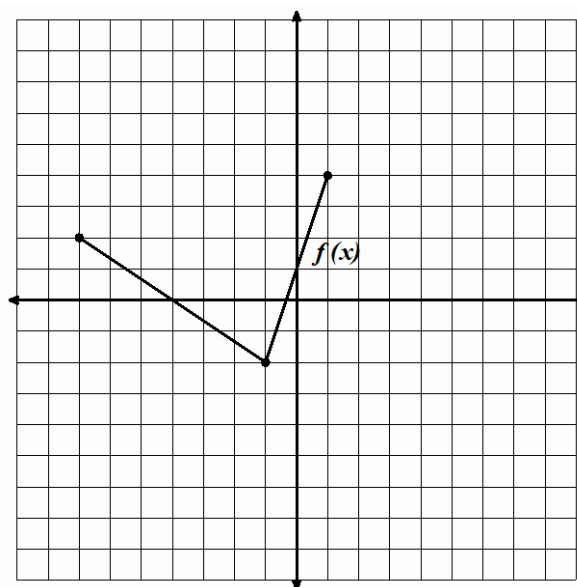**Need help?** Visit **www.rsgsupport.org**

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Topic: Inverse functions

8. **Given**: $f(x) = \{(-13, 5)\ (-9, -9)\ (-5, -2)\ (-1, -5)\ (0, -4)\ (4, 6)\ (9, 10)\ (14, 32)\}$

Find $f^{-1}(x) = \{(\quad, \quad)\ (\quad, \quad)\ (\quad, \quad)\ (\quad, \quad)\ (\quad, \quad)\ (\quad, \quad)\ (\quad, \quad)\ (\quad, \quad)\}$

9. The function $f(x)$ is shown on the graph. Graph $f^{-1}(x)$ on the same set of axes.

10. Is the graph of $f^{-1}(x)$ also a function? Justify your answer.

11. I am going on a long trip to Barcelona, Spain. I am only taking one suitcase and it is packed very full. I plan to arrive completely exhausted at my hotel in the middle of the night. The only thing I will want to take out of my suitcase is a pair of pajamas. So when I packed my suitcase at home, did I want to put my pajamas in first, somewhere in the middle, or last? Explain.
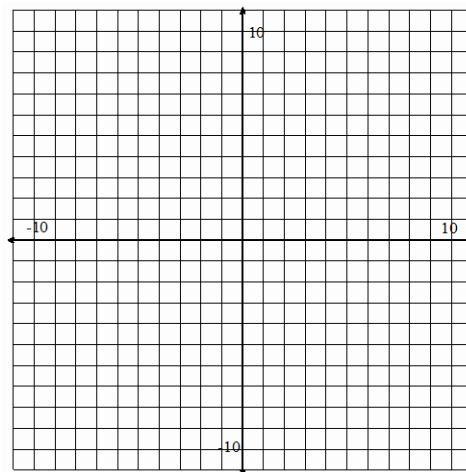
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12. Write the inverse function for the table of values.

Input x	-10	-6	-2	2	6
Output $g(x)$	-2	-1	0	1	2

Input x					
Output $g^{-1}(x)$					

13. Use the points in problem 12. Graph $g(x)$ in black and $g^{-1}(x)$ in a different color on the coordinate grid at the right. Graph the line of reflection for the corresponding points.

14. Is $g^{-1}(x)$ also a function? Justify your answer.

GO

Topic: Multiplying square roots

Multiply. Write your answers in simplest radical form.

15. $\sqrt{3}\left(4 + 5\sqrt{3}\right)$

16. $6\sqrt{11}\left(2 - \sqrt{11}\right)$

17. $\left(1 - 7\sqrt{2}\right)\left(1 - \sqrt{2}\right)$

18. $\left(3 + 2\sqrt{13}\right)\left(3 - 2\sqrt{13}\right)$

19. $\left(4 + 3\sqrt{5}\right)\left(4 - 3\sqrt{5}\right)$

20. $\left(1 - 3\sqrt{6}\right)\left(5 - 2\sqrt{6}\right)$

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