

Reteaching 7-8

Graphing Square Root and Other Radical Functions

OBJECTIVE: Graphing radical functions

MATERIALS: None

The graph of $y = a\sqrt{x - h} + k$ is a translation h units horizontally and k units vertically of $y = a\sqrt{x}$. The value of a determines a vertical stretch or compression of $y = \sqrt{x}$.

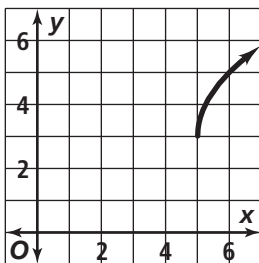
Example

Graph $y = 2\sqrt{x - 5} + 3$.

$$y = 2\sqrt{x - 5} + 3$$



$$a = 2 \quad h = 5 \quad k = 3$$



Translate the graph of $y = 2\sqrt{x}$ right five units and up three units. The graph of $y = 2\sqrt{x}$ looks like the graph of $y = \sqrt{x}$ with a vertical stretch by a factor of 2.

Exercises

Graph each function.

- | | |
|----------------------------|-----------------------------|
| 1. $y = \sqrt{x - 4} + 1$ | 2. $y = \sqrt{x} - 4$ |
| 3. $y = \sqrt{x + 1}$ | 4. $y = -\sqrt{x + 2} - 3$ |
| 5. $y = 2\sqrt{x - 1}$ | 6. $y = -2\sqrt{x + 3} + 4$ |
| 7. $y = -\sqrt{x} + 1$ | 8. $y = \sqrt{x + 3} - 4$ |
| 9. $y = 3\sqrt{x} + 2$ | 10. $y = -\sqrt{x - 2}$ |
| 11. $y = \sqrt{x - 1} - 2$ | 12. $y = -\sqrt{x + 4} - 1$ |

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