

# Algebra 1

## Graphing Radical Equations

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# Radical Function

## Parent Square Root Function

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# Radical Function

## Parent Square Root Function

$y = \sqrt[3]{x} + 6$

x	y
-4	-4
-3	-3
-2	-2
-1	-1
0	0
1	1
2	1.414
3	1.732
4	2
5	2.236
6	2.449
7	2.646
8	2.828
9	3

PARENT SQUARE ROOT FUNCTION  
domain:  $x \geq 0$

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Graph the function  
 $y = 3\sqrt{x} + 2$   
 Compare the graph to the parent function.

You Try It

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x	y
-6	
-5	
-4	
-3	
-2	0
-1	3
0	4.2426
1	5.1962
2	6
3	6.7082
4	7.3485
5	7.9373
6	8.4853
7	9
8	9.4868
9	9.9499
10	10.392

Graph the function  
 $y = 3\sqrt{x} + 2$   
 Compare the graph to the parent function.

You Try It

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Iris and Sebastian are sailing in a friend's sailboat. They have read that their waterline in feet ( $l$ ) can be estimated if they know their hull speed in mph ( $h$ ):

$$h = 1.34\sqrt{l}$$

Graph this relationship. If the hull speed is 9mph, what is the length of their waterline?

You Try It

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Iris and Sebastian are sailing in a friend's sailboat. They have read that their waterline in feet ( $l$ ) can be estimated if they know their hull speed in mph ( $h$ ):

$$h = 1.34\sqrt{l}$$

Graph this relationship. If the hull speed is 9mph, what is the length of their waterline?

l	h
0	0.00
10	4.24
20	5.99
30	7.24
40	8.47
50	9.48
60	10.38
70	11.21
80	11.99
90	12.71
100	13.40
110	14.05
120	14.68
130	15.28

$9 = 1.34\sqrt{l}$   
 $9 \div 1.34 = \sqrt{l}$   
 $6.72 = \sqrt{l}$   
 $6.72^2 = l^2$   
 $45.1 = l$

You Try It

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