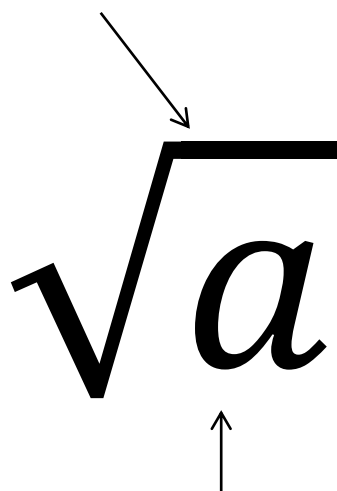


WHAT ARE
SQUARE
ROOTS?

EVALUATING
&
ESTIMATING
SQUARE
ROOTS

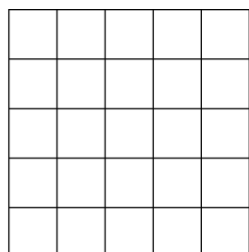
SIMPLIFYING
EXPRESSIONS
INVOLVING
SQUARE
ROOTS

1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	



The square root of _____ is _____ because _____ · _____ = _____.

Think:



EXAMPLE 1:

Find the square root of each number.

a) $\sqrt{144}$

b) $\sqrt{81}$

c) $-\sqrt{25}$

EXAMPLE 2:

Approximate each square root to the nearest hundredth.

a) $\sqrt{98}$

b) $-\sqrt{39}$

c) $\sqrt{55}$

EXAMPLE 3:

Simplify each expression.

a) $5(\sqrt{225} - 10)$

b) $-125 + 3\sqrt{400}$

c) $\sqrt{\frac{64}{4}} \cdot \sqrt{9}$

d) $\sqrt{\frac{25}{16}} + \frac{3}{4}$

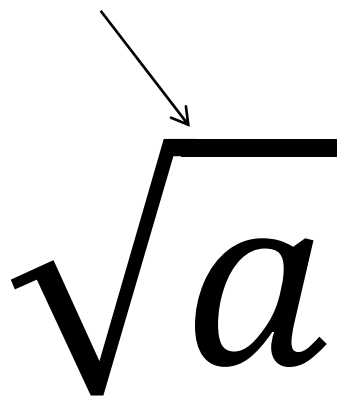
WHAT ARE
SQUARE
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EVALUATING
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ROOTS

SIMPLIFYING
EXPRESSIONS
INVOLVING
SQUARE
ROOTS

1	1
2	4
3	9
4	16
5	25
6	36
7	49
8	64
9	81
10	100
11	121
12	144
13	169
14	196
15	225
16	256
17	289
18	324
19	361
20	400

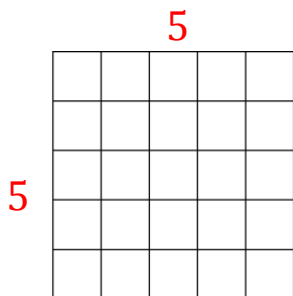
Radical Symbol



Radicand

The square root of 25 is 5 because 5 · 5 = 25.

Think:



Area = $5 \cdot 5 = 25$ units²

EXAMPLE 1

Find the square root of each number.

a) $\sqrt{144} = 12$

b) $\sqrt{81} = 9$

c) $-\sqrt{25} = -5$

EXAMPLE 2

Approximate each square root to the nearest hundredth.

a) $\sqrt{98} \approx 9.90$

b) $-\sqrt{39} \approx 6.24$

c) $\sqrt{55} \approx 7.42$

EXAMPLE 3

Simplify each expression.

a) $5(\sqrt{225} - 10)$

$= 25$

b) $-125 + 3\sqrt{400}$

$= -65$

c) $\sqrt{\frac{64}{4}} \cdot \sqrt{9}$

$= 12$

d) $\sqrt{\frac{25}{16}} + \frac{3}{4}$

$= 2$

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