

2.4 Square Roots of Rational Numbers

September 22, 2015 8:29 AM

Square Root

- represented by the symbol $\sqrt{\quad}$
- a product of 2 equal factors
 ↓
 answer when you multiply

- when the square root of a given # is multiplied by itself, the product is the given #

ex $\sqrt{9} = 3$ because $3 \times 3 = 9$ or 3^2

List of whole # with perfect squares between 1-100

number #	$\sqrt{\#}$	answer	how its solved
1	$\sqrt{1}$	1	1×1
4	$\sqrt{4}$	2	2×2
9	$\sqrt{9}$	3	3×3
16	$\sqrt{16}$	4	4×4
25	$\sqrt{25}$	5	5×5
36	$\sqrt{36}$	6	6×6
49	$\sqrt{49}$	7	7×7
64	$\sqrt{64}$	8	8×8
81	$\sqrt{81}$	9	9×9
100	$\sqrt{100}$	10	10×10

Ex #1 Is $\frac{8}{18}$ a perfect square?

simplify $\frac{8}{18} = \frac{4}{9} = \frac{\sqrt{4}}{\sqrt{9}} = \sqrt{\frac{4}{9}}$

$$= \frac{2}{3} \checkmark \text{ perfect square}$$

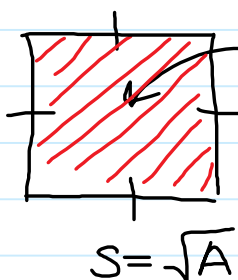
Ex #2 Is $\frac{16}{5}$ a perfect square?

$$= \sqrt{\frac{16}{5}} = \frac{\sqrt{16}}{\sqrt{5}} = \frac{4}{2.23606}$$

- random #'s
- not repeating

X not a perfect square

Ex #3 solve for length of a square with an area of 144



$$A = 1.44$$

$$A = l \times w \\ = s \times s$$

$$s = \sqrt{144} \\ = 12$$

Ex #4

(a) 0.4 X

$$= \sqrt{0.4} \\ = 0.63255$$

- not terminating
- random #

(b) 6.25 \checkmark

$$= 2.5$$

NOT a perfect square

pg 78 #6 - 15, 18, 23