

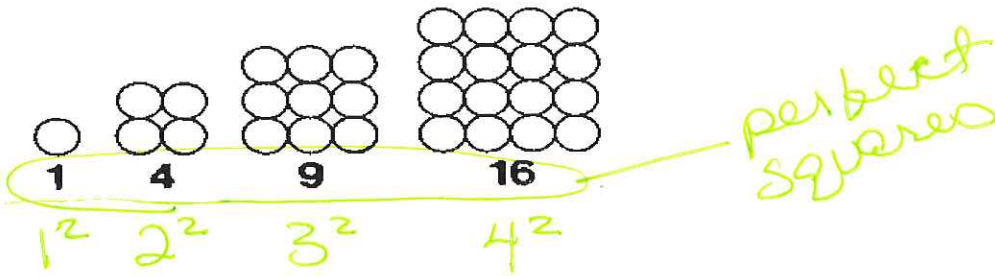
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# Unit 11: Radical Sequences

## Squares and Square Roots- Powerpoint Notes

Key

A **perfect square** is a number that is the square of a whole number



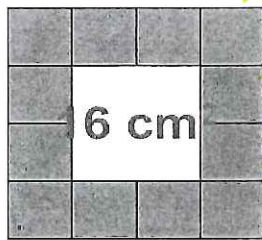
### Perfect Squares---Up to 15

- ✦  $1 \times 1 = 1$
- ✦  $2 \times 2 = 4$
- ✦  $3 \times 3 = 9$
- ✦  $4 \times 4 = 16$
- ✦  $5 \times 5 = 25$
- ✦  $6 \times 6 = 36$
- ✦  $7 \times 7 = 49$
- ✦  $8 \times 8 = 64$
- ✦  $9 \times 9 = 81$
- ✦  $10 \times 10 = 100$
- ✦  $11 \times 11 = 121$
- ✦  $12 \times 12 = 144$
- ✦  $13 \times 13 = 169$
- ✦  $14 \times 14 = 196$
- ✦  $15 \times 15 = 225$

Activity: Are these perfect squares or not??

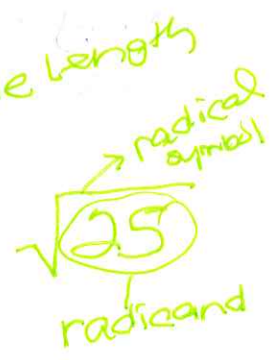
- i. 16 yes
- ii. 15 no
- iii. 146 no
- iv. 169 yes
- v. 200 no
- vi. 225 yes

**Square Root** is: a number which when multiplied by itself results in another number



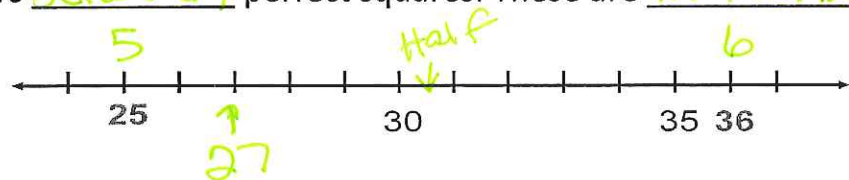
The number under the radical is the radicand

It's called a square root because it is the root of a square area.  
The square root symbol is called: radical  
If the answer no longer has a square root symbol the number was rational.



\*If you are not finding the square root of a perfect square you will need to estimate

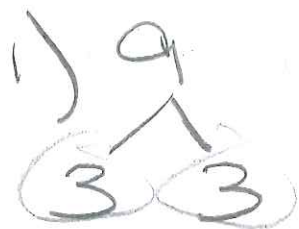
square roots for numbers between perfect squares. These are irrational numbers.



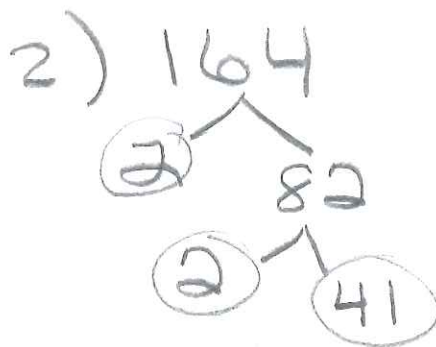
EX:  $\sqrt{27} \approx 5.2$

# Warm Up

## Prime Factor



$$9 = 3 \cdot 3 = 3^2$$



$$y = \frac{41}{x}$$

2<sup>nd</sup> table  
whole #'s

$$164 = 2 \cdot 2 \cdot 41 = 2^2 \cdot 41$$

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Rational: ex:  $\frac{1}{4}$ ;  $\frac{3}{1}$ ;  $\sqrt{6} = \frac{\sqrt{6}}{1}$

↓  
fraction

any number that can be written  
as a fraction

Irrational: ex:  $\sqrt{27}$ ;  $\pi$

any number that cannot be written  
as a fraction