

L2 Perfect Squares and Cubes

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Lesson 2 Perfect Squares, Cubes, and their Roots

Recall:

Perfect Square: a number that can be expressed as the product of two equal factors
ie. 1, 4, 9, 16, 25, 36, 49, 64...

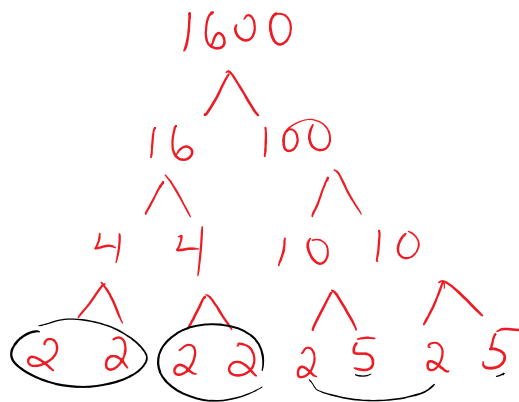
Square Root: a number which multiplied by itself, gives you the original number

Perfect Cube: a number that can be expressed as the product of three equal factors
ie. 1, 8, 27, 64, 125, 216...

Cube Root: a number which multiplied by itself three times produces the original number

Example 1: Determining the Square Root of a Whole Number

Determine the square root of 1600.



$$49 = 7 \cdot 7$$

$$100 = 10 \cdot 10$$

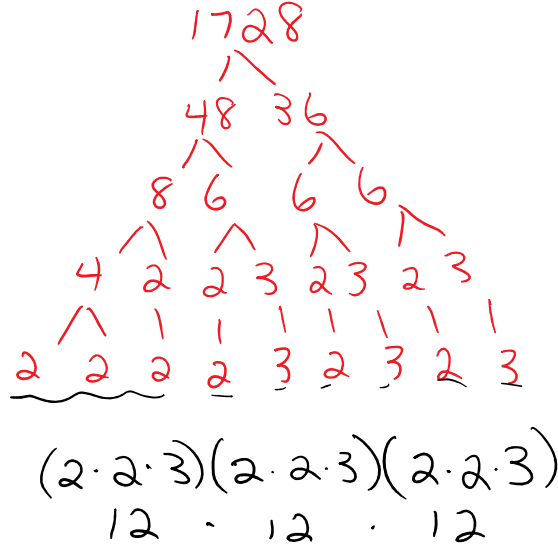
$$(2 \cdot 2 \cdot 2 \cdot 5)(2 \cdot 2 \cdot 2 \cdot 5)$$

$$40 \cdot 40$$

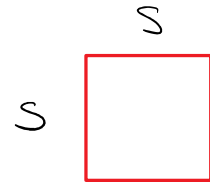
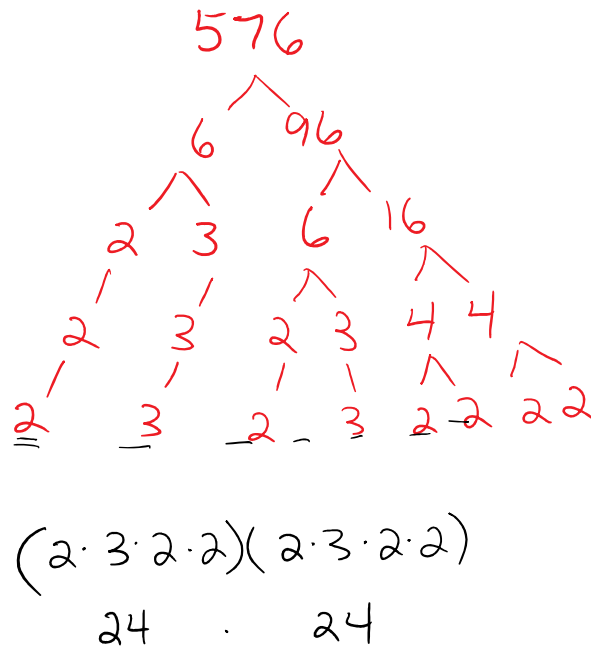
$$\therefore \sqrt{1600} = 40$$

Example 2: Determining the Cube Root of a Whole Number

Determine the cube root of 1728.



$$\therefore \sqrt[3]{1728} = 12$$

Example 3: Using Roots to Solve ProblemsA square has an area of 576 cm². Determine the side length of the square.

\therefore side length
is 24cm

Assign pg 146
#4b, 5e, 7a,

8a
Try 10

~ Try 1 ~