

Dissecting a number:

73,456

$$7 \text{ ten thousands} = 7 \times 10,000 = 7 \times 10^4$$

$$3 \text{ thousands} = 3 \times 1000 = 3 \times 10^3$$

$$4 \text{ hundreds} = 4 \times 100 = 4 \times 10^2$$

$$5 \text{ tens} = 5 \times 10 = 5 \times 10^1$$

$$6 \text{ ones} = 6 \times 1 = 6 \times 10^0$$

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$$10^4 = 10 \cdot 10 \cdot 10 \cdot 10 = 10,000$$

$$10^3 = 10 \cdot 10 \cdot 10 = 1000$$

$$10^2 = 10 \cdot 10 = 100$$

$$10^1 = 10$$

$$10^0 = 1$$

$$10^{-1} = \frac{1}{10} = .1$$

$$10^{-2} = \frac{1}{100} = .01$$

$$10^{-3} = \frac{1}{1000} = .001$$