

To Whom It May
Concern:

Decimals
matter!



Unit 9: Decimals

Identify, Represent, Compare, Order, Add, and Subtract

SOL 4.3 a, b, c, d; 4.5 c, d

Vocabulary=

Decimal: a number containing a decimal point

Place Value : the value of each digit; depends upon the position of the digit in the number

Decimal Numbers may be written in a variety of formats:

- **Standard:** 26,537
- **Written:** twenty-six and five hundred thirty-seven thousandths
- **Expanded:** $(2 \times 10) + (6 \times 1) + (5 \times 0.1) + (3 \times 0.01) + (7 \times 0.001)$

Greater than, less than, or equal to: terms used to compare two numbers ($<$, $>$, $=$)

Rounding: a method used to approximate numbers; involves either increasing or decreasing a number to the next digit

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Vocabulary Continued:

Sum: the result of adding two or more numbers

Addend: number that is added to another number

Difference: the amount that remains after one quantity is subtracted from another

Minuend: the larger number on top that is being subtracting from

Subtrahend: the smaller number on the bottom that is being subtracted

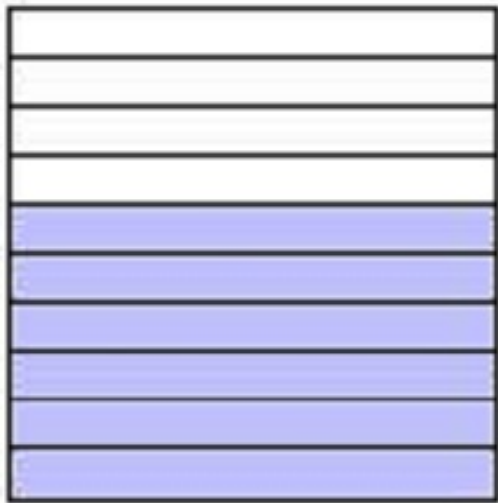
Regrouping: exchange of digits from different places

Estimate: a number close to an exact solution; tells about how much or about how many

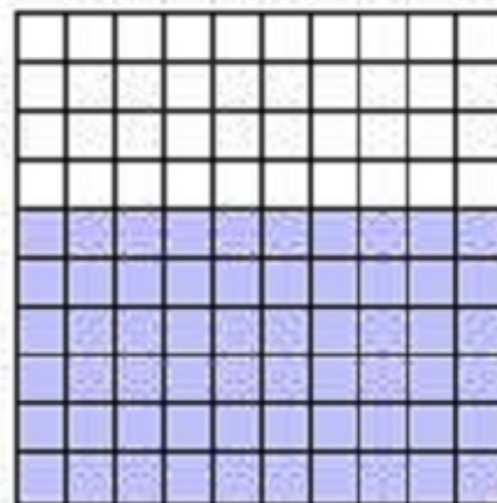
Examples

Represent Decimals

Using a Model



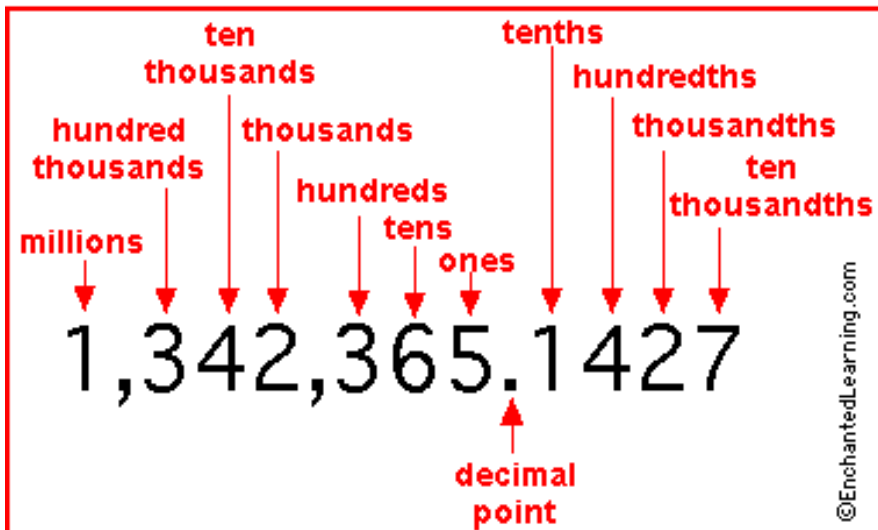
0.6
six tenths



0.60
sixty hundredths

Examples

Decimal Place Value



Decimal Formats:

● =and

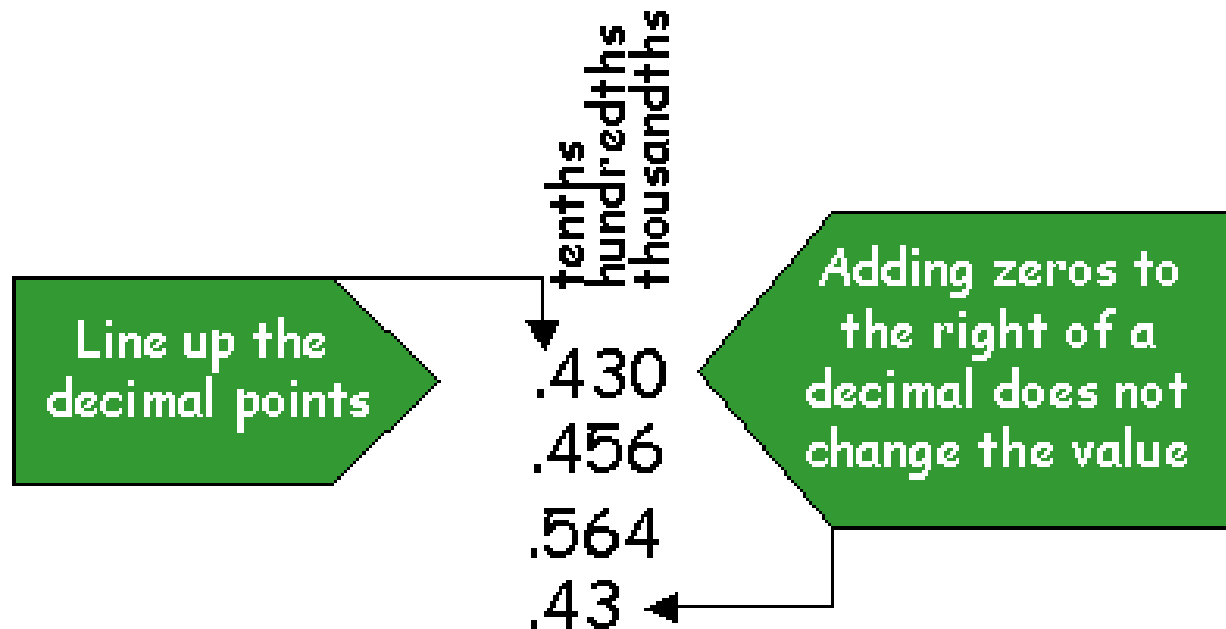
example of Standard Form
1.05

example of Word Form
one and five hundredths

example of Expanded Form
 $1 + 0.0 + 0.05$

Examples

Comparing Decimal Numbers:





Examples

Rounding Decimal Numbers

Round 6.378 to the nearest *hundredth* (2 decimal places or 2dp)..

Step 1. Underline the digit in the given place. (*HUNDRETHS*)

6.378

Step 2. *Circle* the number to its right.

6.378

Step 3. (a) 8 is more than 5 so we add 1 to the hundredths place.

8

6.378

Step 4. When rounding decimals, DELETE all digits to the right of the given place.

6.38

6.378, rounded to the nearest hundredth is 6.38.

Examples Decimal Numbers

Adding with Decimals

Line up the decimal points...

$$\begin{array}{r} 3.21 + 4.5 \\ \hline 7.71 \end{array}$$

and just drag that decimal point straight down!

Add as usual!

After lining up the decimal numbers, add a zero if necessary to fill in

$$16.34 - 3.18$$

$$\begin{array}{r} 16.34 \\ - 3.18 \\ \hline \end{array}$$

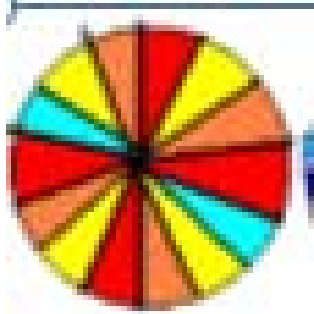
Line up the decimal points... borrow (regroup) if you need to!

$$\begin{array}{r} 16.\overset{2}{\cancel{3}}4 \\ - 3.18 \\ \hline 13.16 \end{array}$$

Subtracting with Decimals

Examples Decimal Numbers

fractions to decimals



tenths

$$1/10 = 0.1$$

$$2/10 = 0.2$$

$$3/10 = 0.3$$

$$4/10 = 0.4$$

$$5/10 = 0.5$$

$$6/10 = 0.6$$

$$7/10 = 0.7$$

$$8/10 = 0.8$$

$$9/10 = 0.9$$

$$10/10 = 1$$



fifths

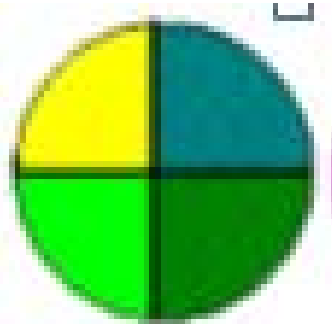
$$1/5 = 0.2$$

$$2/5 = 0.4$$

$$3/5 = 0.6$$

$$4/5 = 0.8$$

$$5/5 = 1$$



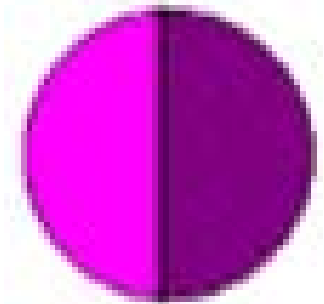
fourths

$$1/4 = 0.25$$

$$2/4 = 0.5$$

$$3/4 = 0.75$$

$$4/4 = 1$$



halves

$$1/2 = 0.5$$

$$2/2 = 1$$

Key Words for Word Problems In Addition

In All

Total

and

The sum of

ADD

altogether

What other
key words
can you think

Key Words for Word Problems

In Subtraction

Difference

Fewer

How many more

Remains

How much more

Left

**What other
key words
can you think**

Less (Than)

Minus

Decreased by