

# Add & Subtract Decimals

Step 1: Line up the decimals

Step 2: Fill in any gaps with zeros

Step 3: Add/Subtract like normal

Step 4: Bring the decimal straight down

$$4.2 + 3.56 \quad | \quad 4.2 - 3.56$$

$$\begin{array}{r} 4.20 \\ + 3.56 \\ \hline 7.76 \end{array}$$

$$\begin{array}{r} \overset{3}{\cancel{4}}.\overset{11}{\cancel{2}}0 \\ - 3.56 \\ \hline 0.64 \end{array}$$

## Multiplying Decimals

### Multiplying: Counting decimal places

 Example

$$0.002 \times 3.1$$

3dp

1dp

4dp total in the question

Multiply the non-zero digits:  $2 \times 31 = 62$

Answer: The digits 62 with 4 dp  $0.0062$

You try

$$a) 2.4 \times 0.07 = 0.168$$

$$\begin{array}{r} 2.4 \\ \times 0.07 \\ \hline 168 \end{array}$$

$$b) 12.1 \times 0.4 = 4.84$$

$$\begin{array}{r} 12.1 \\ \times 0.4 \\ \hline 484 \end{array}$$

## Dividing Decimals Poster

$$0.5 \overline{)4.5} \rightarrow 5 \overline{)45.}^9$$

$$\begin{array}{r} 5 \overline{)45.} \\ -45 \\ \hline 0 \end{array}$$

Steps:

1. If the divisor has a decimal, move it as many places to the right as necessary to make it a whole number.
2. Move the decimal in the dividend the same amount of times to the right as you did the divisor.
3. Divide.
4. Place the decimal in the same spot as the decimal in the dividend.

Copyright © 2010 by Linda Ward Beech

4

You try

a)  $267.3 \div 9$

$$9 \overline{)267.3}^29.7$$

$$\begin{array}{r} 29.7 \\ 9 \overline{)267.3} \\ -18 \phantom{0} \\ \hline 87 \phantom{0} \\ -81 \phantom{0} \\ \hline 63 \phantom{0} \\ -63 \\ \hline 0 \end{array}$$

b)  $17.4 \div 0.2$

$$0.2 \overline{)17.4} \rightarrow 2 \overline{)174.}^87$$

$$\begin{array}{r} 87 \\ 2 \overline{)174.} \\ -16 \phantom{0} \\ \hline 14 \phantom{0} \\ -14 \\ \hline 0 \end{array}$$

Not whole

## Order of Operations

ORDER MATTERS --> BEDMAS

B - Brackets

E - Exponents

DM - Multiplication and Division in the order they occur in question

AS - Addition and Subtraction in the order they occur in question

$$\begin{aligned} & 3 + 4 \times 6 - 2 \\ = & 3 + 24 - 2 \\ = & 27 - 2 \\ & = 25 \end{aligned}$$

## Order of Operations with Decimals

still use **BEDMAS**

No calculators

$$1) \quad 6 \times 15.9 + 36.4 \div 4$$

$$95.4 + 36.4 \div 4$$

$$95.4 + 9.1$$

$$\boxed{104.5}$$

Show work off to side

Step 1

$$6 \times 15.9 = 95.4$$

$$\begin{array}{r} 3 \quad 5 \\ 159 \\ \times \quad 6 \\ \hline 954 \end{array}$$

Step 2  $36.4 \div 4 = 9.1$

$$\begin{array}{r} 9.1 \\ 4 \overline{) 36.4} \\ \underline{-36} \phantom{0} \\ 04 \\ \underline{4} \\ 0 \end{array}$$

Step 3  $95.4 + 9.1$

$$\begin{array}{r} 95.4 \\ + 9.1 \\ \hline 104.5 \end{array}$$

# Order of Operations with Decimals

still use **BEDMAS**  
**BE DM AS**

No calculators

show scrap work off to the side

$$\begin{aligned} 1) & \quad 17.92 \div 0.7 + 2.5 \times 3 \\ & = 25.6 + 2.5 \times 3 \\ & = 25.6 + 7.5 \\ & \quad \boxed{33.1} \end{aligned}$$

Step 1  $17.92 \div 0.7$

0.7  $\overline{)17.92}$

Not whole

$$\begin{array}{r} 25.6 \\ 7 \overline{)179.2} \\ \underline{-14} \phantom{.2} \\ 39 \\ \underline{-35} \phantom{.2} \\ 42 \\ \underline{-42} \\ 0 \end{array}$$

Step 2  $2.5 \times 3 = 7.5$

$$\begin{array}{r} 25 \\ \times 3 \\ \hline 75 \end{array}$$

Step 3  $25.6 + 7.5$

$$\begin{array}{r} 25.6 \\ + 7.5 \\ \hline 33.1 \end{array}$$

# Class/Homework

a)  $4.6 + 5.1 - 3.2$

b)  $8 - 3.6 \div 2$

c)  $46.4 - 10.8 \times 3$

d)  $85.6 \div 0.4 \times 7$

$2.5 \times 4 + 9.2 \div 0.1 - (21 - 15)$