

DECIMAL OPERATIONS

When adding and subtracting decimals, the key is to line up the decimals above each other, add zeroes so all of the numbers have the same place value length, then use the same rules as adding and subtracting whole numbers. The answer will have a decimal point in line with the problem. For example:

$$34.5 + 6.72 + 0.045 =$$

$$\begin{array}{r} 34.5 \\ 6.72 \\ \underline{0.045} \\ 50.265 \end{array}$$

To multiply decimals, the rules are the same as with multiplying whole numbers, until the product is determined and the decimal point must be located. The decimal point is placed the same number of digits in from the right side of the product as the number of decimal place values in the numbers being multiplied. For example,

$$8.54 \times 17.2$$

$854 \times 172 = 146888$, then we count the number of decimal places in the factors (3) and move in from the right three places, so the final product is 146.888

To divide decimals by a whole number, the division process is the same as for whole numbers, but the decimal points are lined up in the dividend and the quotient. For example, to divide 51.06 by 3, the process is the same as if the problem were 5106 divided by 3, with the decimal point from the dividend moving up into the quotient to create the final answer of 17.02.

If the divisor is a decimal, move the decimal to the right until your divisor is a whole number. Move the decimal the same number of places for the dividend (adding zeroes when necessary), and divide normally.

$$51 \div 0.3 = 510 \div 3 = 17 \quad (\text{decimal was moved one place to the right for both divisor and dividend})$$