

DECIMALS

Addition

- Line up the **decimal points**.
- Add **zeros** as placeholders.
- Add or subtract the numbers in the columns.
- Insert a **decimal point** in the answer under the other **decimal points**.

$$\begin{array}{r} 18.200 \\ + 0.030 \\ + 0.004 \\ \hline 18.234 \end{array}$$

Subtraction

$$\begin{array}{r} 7.580 \\ - 0.265 \\ \hline 7.315 \end{array}$$

Multiplication

- Line up the numbers, ignore the decimal points, & multiply.
- Count the number of digits to the right of the decimal points in the problem.

$$\begin{array}{r} 7.04 \\ \times 3.2 \\ \hline 22.528 \end{array}$$

← 2 digits to the right of the **decimal point**
 ← 1 digit to the right of the **decimal point**
 ← Total # of digits to the right of the **decimal points** is 3.

- Place the **decimal point** 3 digits from the right.

Division

- Move the **decimal point** in the **divisor** to make a whole #.
- Move the **decimal point** in the **dividend** the same number of spaces to the right.
- Ignore the **decimal point** and divide. Then, place the **decimal point** in the **quotient** directly above the **decimal point** in the **dividend**.

$$\begin{array}{r} 4.2 \overline{)21.84} \\ \underline{42} \\ 218.4 \\ \underline{210} \\ 84 \\ \underline{84} \\ 0 \end{array}$$

Decimal → Percent

Move the decimal 2 places to the right & add a % sign.

$$\begin{aligned} .25 &= 25\% \\ 1.234 &= 123.4\% \\ 3 &= 300\% \\ .045 &= 4.5\% \end{aligned}$$

Percent → Decimal

Move the decimal 2 places to the left & drop the % sign.

$$\begin{aligned} 25\% &= .25 \\ 342\% &= 3.42 \\ .007\% &= .00007 \\ 2.31\% &= .0231 \end{aligned}$$

Decimal → Fraction

Put the decimal over 1, move the decimal to make the numerator a whole # and add zeros to the denominator, and then reduce.

$$\begin{aligned} .25 &= \frac{.25}{1} = \frac{25}{100} = \frac{1}{4} \\ .123 &= \frac{.123}{1} = \frac{123}{1000} \\ .2 &= \frac{.2}{1} = \frac{2}{10} = \frac{1}{5} \end{aligned}$$

Fraction → Decimal

Divide the numerator by the denominator.

$$\frac{1}{4} = 4 \overline{)1.00} \quad \text{So, } \frac{1}{4} = .25$$

$$\begin{array}{r} .25 \\ 4 \overline{)1.00} \\ \underline{-8} \\ 20 \\ \underline{-20} \\ 0 \end{array}$$

Helpful YouTube video:
www.youtube.com/watch?v=mFO_oJSYhyg