

Fun with Fractions!

Multiplication

$$\left(\frac{2}{3}\right)\left(\frac{4}{5}\right) = \frac{2 \times 4}{3 \times 5} = \frac{8}{15}$$

$$\frac{2}{5} \cdot \frac{8}{5} = \frac{16}{25}$$

$$\begin{aligned} 2\frac{2}{5} \times 1\frac{8}{3} &= \left(\frac{10}{5} + \frac{2}{5}\right) \times \left(\frac{3}{3} + \frac{8}{3}\right) \\ &= \frac{12}{5} \times \frac{11}{3} \\ &= \frac{132}{15} \end{aligned}$$

$$2\frac{1}{5} \rightarrow \frac{10}{5} + \frac{1}{5} = \frac{11}{5}$$

Addition/Subtraction

$$\frac{2}{5} + \frac{1}{5} = \frac{2+1}{5} = \frac{3}{5}$$

$$\begin{aligned} \frac{1}{3} - \frac{2}{5} &= \frac{5}{15} - \frac{6}{15} \\ &= -\frac{1}{15} \end{aligned}$$

$$\begin{aligned} 2\frac{1}{4} + 3\frac{2}{5} &= \frac{8}{4} + \frac{1}{4} + \frac{15}{5} + \frac{2}{5} \\ &= \frac{9 \times 5}{4 \times 5} + \frac{17 \times 4}{5 \times 4} \\ &= \frac{45}{20} + \frac{68}{20} \\ &= \frac{113}{20} \end{aligned}$$

$$\begin{aligned} 3\frac{2}{5} &= \frac{3 \times 5 + 2}{5} \\ &= \frac{17}{5} \end{aligned}$$

Division?

$$4 \div 3 \\ = \frac{4}{3}$$

$$\frac{2}{5} \div 3 \\ = \frac{2}{5} \div \frac{3}{1} \\ = \frac{2}{5} \times \frac{1}{3} \\ = \frac{2}{15}$$

$$\frac{2}{5} \div \frac{3}{4} \\ = \frac{2}{5} \times \frac{4}{3} \\ = \frac{8}{15}$$

$$4(3) \div 2 \\ = 12 \div 2 \\ = 6 \quad \text{OR} = 12 \times \frac{1}{2} \\ = \frac{12}{2} \\ = 6$$

$$5 + 4(3) \div 2 \\ = 5 + 12 \div 2 \\ = 5 + 6 \\ = 11$$

Putting them all together again

$$\begin{aligned}
 & 3\frac{2}{5} + \frac{-2}{7} \\
 &= 3\frac{2}{5} - \frac{2}{7} \\
 &= \frac{17}{5} - \frac{2}{7} \quad \begin{array}{l} \times 7 \\ \times 5 \end{array} \\
 &= \frac{119}{35} - \frac{10}{35} \\
 &= \frac{109}{35}
 \end{aligned}$$

$$\begin{aligned}
 & 1 - 4^2[18 \div 2 + (-7)(2)] \\
 &= 1 - 4^2[18 \div 2 - 7(2)] \\
 &= 1 - 16[18 \div 2 - 7(2)] \\
 &= 1 - 16[9 - 7(2)] \\
 &= 1 - 16(9 - 14) \\
 &= 1 - 16(-5) \\
 &= 1 - (-80) \\
 &= 1 + 80 \\
 &= 81
 \end{aligned}$$

$$\begin{aligned}
 & \frac{1}{2} \div \left(\frac{1}{3} + \frac{1}{2}\right) - \frac{2}{3} \\
 &= \frac{1}{2} \div \left(\frac{2}{6} + \frac{3}{6}\right) - \frac{2}{3} \\
 &= \frac{1}{2} \div \frac{5}{6} - \frac{2}{3} \\
 &= \frac{1}{2} \times \frac{6}{5} - \frac{2}{3} \\
 &= \frac{6}{10} - \frac{2}{3} \quad \begin{array}{l} \times 3 \\ \times 10 \end{array} \\
 &= \frac{18}{30} - \frac{20}{30} \\
 &= -\frac{2}{30} \\
 &= -\frac{1}{15}
 \end{aligned}$$

Practicing is sooooo important!

Have you finished all of 1.5?

- Set 1: #2ace, 3ace, 4ace, #5ace, 6ace, 7ace, 8, 10
- OR
- Set 2: #1, 2aij, 3aceij, #6ace, 7ace, 10,12,13,14

Too hard to start with? Make sure you're comfortable with 1.2

- Set 1: #1 a-h,3,4bcde,6a-i
- OR
- Set 2: #1k-p,2,3,4bce,6h-p,7,8

