

## Dividing Fractions

Dividing fractions can be done in a few easy steps. They are as follows:

Step 1: Change any mixed numbers to improper fractions.

$$\text{ie) } 2\frac{2}{5} = \frac{12}{5}$$

*(Note: An arrow points from the 2 to the 2 in the numerator, and another arrow points from the 5 to the 2 in the denominator, with an 'x' below the second arrow.)*

Step 2: Re-write the division statements as a multiplication statement. In other words:

-Keep the first term the same

-Change from division to multiplication

- Change the second term to its reciprocal (flip it!)

$$\text{ie) } \frac{7}{8} \div \frac{1}{3} = \frac{7}{8} \times \frac{3}{1} = \frac{21}{8} = \boxed{2\frac{5}{8}}$$

*(Note: An arrow points from the 1 in the denominator of the second fraction to the 3 in the numerator, labeled "flip to reciprocal". Another arrow points from the 8 in the denominator of the first fraction to the 7 in the numerator, labeled "change to multiply". A third arrow points from the 7 in the numerator of the first fraction to the 7 in the numerator of the second fraction, labeled "stays the same".)*

Step 3: Multiply.

Step 4: Simplify if necessary.

$$\text{Ex 1) } \frac{9}{10} \div \frac{3}{4} = \frac{9}{10} \times \frac{4}{3} = \frac{36}{30} = 1\frac{6}{30} = \boxed{1\frac{1}{5}}$$

*(Note: A small '6' is written above the 6 in the fraction 6/30, and a small '6' is written below the 30 in the fraction 6/30.)*

$$\text{Ex 2) } 5 \div \frac{2}{3} = \frac{5}{1} \div \frac{2}{3} = \frac{5}{1} \times \frac{3}{2} = \frac{15}{2} = \boxed{7\frac{1}{2}}$$

$$\text{Ex 3) } 2\frac{1}{2} \div 1\frac{3}{4} = \frac{5}{2} \div \frac{7}{4} = \frac{5}{2} \times \frac{4}{7} = \frac{20}{14} = 1\frac{6}{14} = \boxed{1\frac{3}{7}}$$

*(Note: A small '2' is written above the 6 in the fraction 6/14, and a small '2' is written below the 14 in the fraction 6/14.)*

$$\text{Ex 4) } 2\frac{2}{3} \div 5\frac{1}{2} = \frac{8}{3} \div \frac{11}{2} = \frac{8}{3} \times \frac{2}{11} = \boxed{\frac{16}{33}}$$