

Worked Examples

1. Express the fraction $\frac{2}{7}$ as a fraction with a denominator of 21.

$$\frac{2}{7} = \frac{2}{7} \cdot \frac{3}{3} = \frac{6}{21}$$

$$\frac{2}{7} = \boxed{\frac{6}{21}}$$

This is legal because $\frac{3}{3}$ is equal to 1 and multiplying by 1 does not change the value of the fraction.

2. Express the fraction $\frac{5}{12}$ as a fraction with a numerator of 45.

$$\frac{5}{12} = \frac{45}{\boxed{?}}$$

$$\frac{5}{12} = \frac{5}{12} \cdot \frac{9}{9} = \frac{45}{108}$$

$$\frac{5}{12} = \boxed{\frac{45}{108}}$$

Here we need to multiply $5 \cdot 9$ to get 45. Therefore, multiply by $\frac{9}{9}$.

3. A water purifier removes all but 2 out of every 1,000 contaminant. If there were 8,000 contaminants to begin with before the water is purified, how many contaminants remain after the water purifier is used?

$$\frac{2}{1000} = \frac{\boxed{?}}{8000}$$

$$\frac{2}{1000} \cdot \frac{8}{8} = \frac{16}{8000}$$

16 contaminants will remain in the water.

Objective: Put a fraction into higher terms.