

## Lesson 24 : Reducing Fractions, Part 2

Ex A : a. Use prime factorization to reduce  $\frac{420}{1050} \div \frac{210}{210} = \frac{2}{5}$

$$\begin{array}{ccc}
 \begin{array}{c} 420 \\ \wedge \\ 10 \cdot 42 \\ \begin{array}{c} \hat{5} \cdot \hat{2} \quad \hat{7} \cdot \hat{6} \\ \begin{array}{c} \hat{2} \hat{3} \\ \hat{7} \hat{3} \end{array} \end{array} \end{array} & 
 \begin{array}{c} 1050 \\ \wedge \\ 105 \cdot 10 \\ \begin{array}{c} \hat{2} \hat{1} \hat{5} \hat{5} \hat{2} \\ \hat{7} \hat{3} \end{array} \end{array} & 
 \frac{420}{1050} = \frac{\cancel{2} \cdot \cancel{2} \cdot \cancel{3} \cdot \cancel{5} \cdot \cancel{7}}{\cancel{2} \cdot \cancel{2} \cdot \cancel{3} \cdot \cancel{5} \cdot \cancel{7}} \\
 & & = \frac{2}{5}
 \end{array}$$

b. Find the GCF of 420 and 1050.

$$\begin{array}{c}
 \begin{array}{c} 12 \cdot 2 \cdot 3 \cdot 5 \cdot 7 \\ 2 \cdot 3 \cdot 5 \cdot 5 \cdot 7 \end{array} = 2 \cdot 3 \cdot 5 \cdot 7 = 210
 \end{array}$$

Ex B: A set of alphabet cards includes one card for each letter of the alphabet. If one card is drawn from the set, what is the probability of a vowel, including y?

$$\frac{\text{fav}}{\text{total}} = \frac{6 \div 2}{26 \div 2} = \frac{3}{13}$$

a, e, i, o, u, y

**Canceling**

a.

$$\frac{5}{8} \times \frac{2}{15} = \frac{\cancel{2}}{120} = \frac{1}{12}$$

b.

$$\frac{\cancel{1} \cdot \cancel{5}}{\cancel{4} \cdot 8} \times \frac{\cancel{2}}{\cancel{3}} = \frac{1}{12}$$

Ex C: Simplify each.

a.  $\frac{3}{8} \times \frac{4}{4} = \frac{3}{8}$

b.  $\frac{2}{3} \times \frac{4}{4} \times \frac{1}{4} = \frac{1}{3}$

c.  $\frac{27}{32} \times \frac{20}{63} = \frac{15}{56}$