

SIMPLIFYING FRACTIONS USING PRIME FACTORIZATION

Ex: SIMPLIFY:

$$\frac{5}{10}$$

$\begin{matrix} 5 \\ \wedge \\ (5) \end{matrix}$

 $\begin{matrix} 10 \\ \wedge \\ (2) \quad (5) \end{matrix}$

$$\therefore \rightarrow \frac{\cancel{5}}{2 \cdot \cancel{5}}$$

$$\boxed{\frac{1}{2}}$$

Ex:

$$\frac{9}{15}$$

$\begin{matrix} 9 \\ \wedge \\ (3) \quad (3) \end{matrix}$

 $\begin{matrix} 15 \\ \wedge \\ (3) \quad (5) \end{matrix}$

$$\frac{\cancel{3} \cdot 3}{\cancel{3} \cdot 5}$$

$$\boxed{\frac{3}{5}}$$

Ex:

$$\frac{10}{12}$$

$\begin{matrix} 10 \\ \wedge \\ (2) \quad (5) \end{matrix}$

 $\begin{matrix} 12 \\ \wedge \\ 4 \quad (3) \\ \wedge \\ (2) \quad (2) \end{matrix}$

 $\begin{matrix} 12 \\ \wedge \\ (2) \quad 6 \\ \wedge \\ (2) \quad (3) \end{matrix}$

$$\frac{\cancel{2} \cdot 5}{\cancel{2} \cdot 2 \cdot 3}$$

$$\boxed{\frac{5}{6}}$$

Ex:

$$\frac{40}{200}$$

$\begin{matrix} 40 \\ \wedge \\ (2) \quad 20 \\ \wedge \\ (2) \quad 10 \\ \wedge \\ (2) \quad (5) \end{matrix}$

 $\begin{matrix} 200 \\ \wedge \\ 10 \quad 20 \\ \wedge \\ (2) \quad (5) \quad (2) \quad 10 \\ \wedge \\ (2) \quad (5) \quad (2) \quad (5) \end{matrix}$

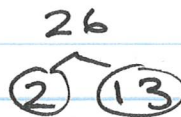
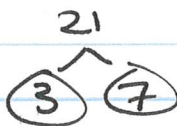
$$\frac{\cancel{2} \cdot \cancel{2} \cdot \cancel{2} \cdot \cancel{5}}{\cancel{2} \cdot \cancel{2} \cdot \cancel{2} \cdot \cancel{5} \cdot 5}$$

$$\boxed{\frac{1}{5}}$$

Ex:

$$\frac{21}{26}$$

$$\frac{3 \cdot 7}{2 \cdot 13}$$



THIS IS ALREADY SIMPLIFIED.