Goal: Solve Rational Equations like \[
\frac{16}{x-4} + \frac{2x-5}{4} = \frac{x}{x^2-16}
\]

Rational Expressions

\[
\frac{16}{x-4} \quad \text{when is } x-4=0? \quad \boxed{x=4}
\]

\[
\frac{2x-5}{4} \quad \text{when is } 4=0? \quad \boxed{\text{Never}}
\]

\[
\frac{x}{x^2-16} \quad \text{when is } x^2-16=0? \quad \boxed{x=\pm 4}
\]

\[
\frac{(x-4)(x+4)=0}{x-4=0 \quad x+4=0}
\]

\[
x=4 \quad \text{or} \quad x=-4
\]

When is a rational expression undefined?

\[
\rightarrow \text{When the denominator equals zero.}
\]