Reteach 8-2 Proportions

A proportion is an equation that shows two equivalent ratios. 
\( \frac{3}{4} = \frac{9}{12} \) is an example of a proportion.

\( 3 \cdot 12 = 36 \) and \( 4 \cdot 9 = 36 \). The cross products of proportions are equal.

You can use cross products to find the missing value in a proportion.

\[ \frac{3}{x} = \frac{12}{48} \]

\[ 12 \cdot x = 3 \cdot 48 \]

To find \( x \), first find the cross products.

\[ 12x = 144 \]

Think: \( 144 \div 12 = x \)

Then use a related math sentence to solve the equation.

\[ x = 12 \]

So, \( \frac{3}{12} = \frac{12}{48} \).

Find the cross products to solve each proportion.

1. \( \frac{x}{8} = \frac{3}{4} \)
   \[ x \cdot 4 = \quad \]

2. \( \frac{2}{3} = \frac{x}{6} \)
   \[ 2 \cdot 6 = \quad \]

3. \( \frac{2}{5} = \frac{4}{x} \)
   \[ 2 \cdot x = \quad \]

4. \( \frac{6}{x} = \frac{1}{3} \)
   \[ 6 \cdot 3 = \quad \]

5. \( \frac{3}{8} = \frac{12}{x} \)

6. \( \frac{3}{5} = \frac{6}{x} \)

7. \( \frac{x}{8} = \frac{2}{16} \)

8. \( \frac{2}{9} = \frac{4}{x} \)

9. \( \frac{3}{4} = \frac{15}{x} \)

10. \( \frac{1}{2} = \frac{x}{30} \)

11. \( \frac{x}{5} = \frac{24}{30} \)

12. \( \frac{25}{35} = \frac{5}{x} \)