

**SKILL**  
**77** **Skills Readiness**  
**Solve Proportions**

Definition: A proportion is an equation that shows two equivalent ratios.

Key property: The cross products of a proportion are equal.

To solve a proportion, follow these two steps:

- Step 1: Find the cross products.
- Step 2: Simplify if necessary and solve the equation for the variable.

Example: Solve  $\frac{4}{6} = \frac{x}{12}$

Step 1: Find the cross products.	Step 2: Simplify and solve.
$\frac{4}{6} = \frac{x}{12} \Rightarrow 6 \cdot x = 4 \cdot 12$	$6 \cdot x = 4 \cdot 12$ Multiply. $6x = 48$ Divide both sides by 6. $x = 8$

**Practice on Your Own**  
**Solve each proportion.**

1.  $\frac{2}{5} = \frac{x}{25}$

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2.  $\frac{11}{4} = \frac{22}{x}$

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3.  $\frac{8}{16} = \frac{x}{160}$

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4.  $\frac{100}{500} = \frac{x}{100}$

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5.  $\frac{9}{10} = \frac{45}{x}$

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6.  $\frac{90}{12} = \frac{x}{4}$

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7.  $\frac{15}{7} = \frac{5}{x}$

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8.  $\frac{30}{21} = \frac{x}{7}$

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9.  $\frac{45}{8} = \frac{5}{x}$

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10.  $\frac{1}{99} = \frac{x}{33}$

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11.  $\frac{2}{9} = \frac{8}{x}$

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12.  $\frac{8}{3} = \frac{32}{x}$

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**Check**  
**Solve each proportion.**

13.  $\frac{3}{7} = \frac{x}{49}$

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14.  $\frac{15}{30} = \frac{5}{x}$

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15.  $\frac{13}{2} = \frac{x}{4}$

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16.  $\frac{66}{12} = \frac{6}{x}$

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17.  $\frac{11}{4} = \frac{22}{x}$

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18.  $\frac{6}{4} = \frac{x}{5}$

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19.  $\frac{1}{55} = \frac{x}{44}$

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20.  $\frac{12}{5} = \frac{24}{x}$

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