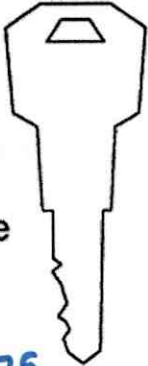
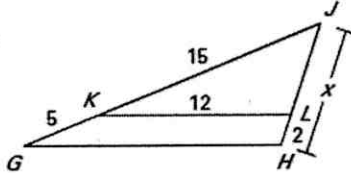


Use Proportions to Solve Geometry Problems

Vocabulary	Definition	Example
SCALE DRAWING	A scale drawing is a drawing that is the same shape as the object it represents.	<p>Keys The length of the key in the scale drawing is 7 centimeters. The length of the actual key is 4 centimeters. What is the scale of the drawing?</p> 
SCALE	The scale is a ratio that describes how the dimensions in a drawing are related to the actual dimensions of the object.	<p>Solution</p> <p>To find the scale, write the ratio of a length in the drawing to <u>the actual length</u>, then rewrite the ratio so that the <u>denominator</u> is 1.</p> $\frac{\text{length in drawing}}{\text{actual length}} = \frac{7 \text{ cm}}{4 \text{ cm}} = \frac{7 \div 4}{4 \div 4} = \frac{1.75}{1}$ <p>The scale of the drawing is <u>1.75 cm : 1 cm</u></p>

PROPERTIES OF PROPORTIONS

Cross Product	Reciprocal Property	Interchange the Means	Denominator Addition
$\frac{2}{7} = \frac{8}{x}$ $2x = 7(8)$ $2x = 56$ $\boxed{x = 28}$ $\frac{2}{7} = \frac{8}{x}$	$\frac{7}{2} = \frac{x}{8}$ $2x = 7(8)$ $2x = 56$ $\boxed{x = 28}$ $\frac{7}{2} = \frac{x}{8}$	$\frac{2}{8} = \frac{7}{x}$ $2x = 7(8)$ $2x = 56$ $\boxed{x = 28}$ $\frac{2}{8} = \frac{7}{x}$	<p>In the diagram, $\frac{JL}{LH} = \frac{JK}{KG}$. Find JH and JL.</p>  <p>Given</p> $\frac{JL}{LH} = \frac{JK}{KG}$ $\frac{JL + LH}{LH} = \frac{JK + KG}{KG} \rightarrow \frac{JH}{LH} = \frac{JG}{KG}$ $\frac{x}{2} = \frac{20}{5}$ $5x = 40$ $x = 8$ <p>JH = 8 JL = 6</p>