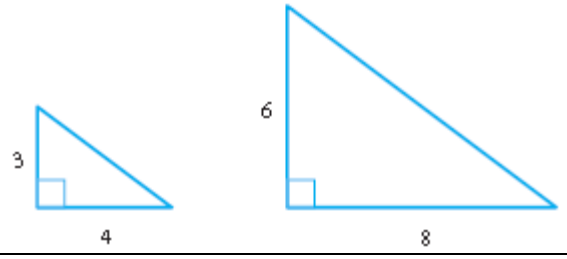
Proportions: Similar Triangles

Vocabulary

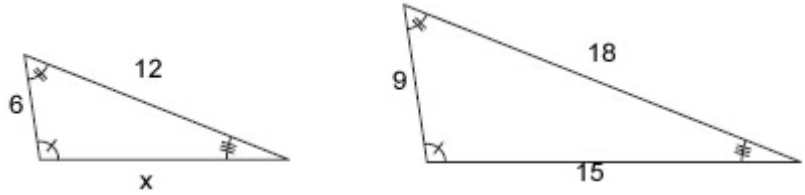
Similar	Two right triangles are similar if the ratios of corresponding sides are equivalent.



$\frac{3}{4}=\frac{6}{8}$ or 3 is to 4 as 6 is to 8

$\frac{3}{6}=\frac{4}{8}$ or 3 is to 6 as 4 is to 8

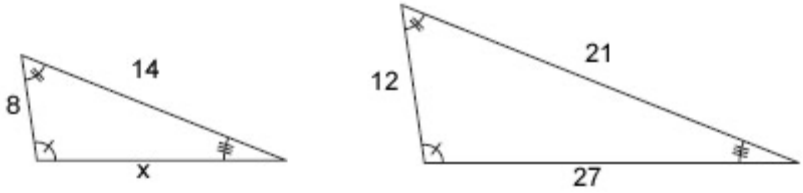
In geometry, if triangles are similar, they are proportional.



$\frac{6}{9}=\frac{x}{15}$ $\frac{12}{18}=\frac{x}{15}$ or even $\frac{6}{x}=\frac{9}{15}$

TRY:

Find the length of the unknown side x, given these two similar triangles.



A 9' lamppost casts a 15' shadow. At the same time of day, how high of a tree will cast a 40' shadow?