3.4

USING SIMILAR TRIANGLES

Using Cross Products to Solve Proportions

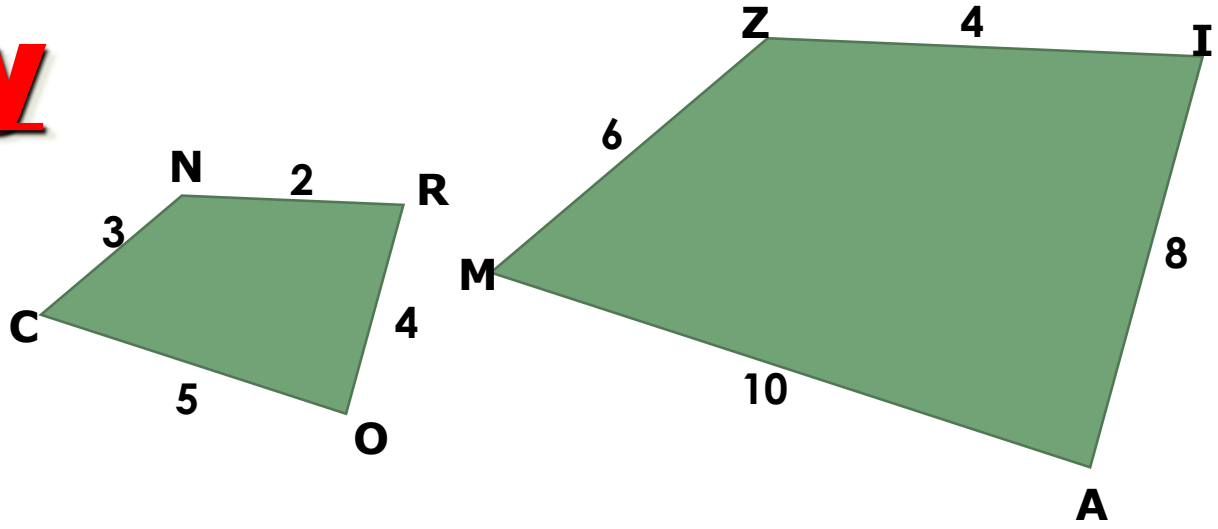
Solve for the missing variable.

1) $\frac{b}{8} = \frac{15}{20}$

2) $\frac{10}{a} = \frac{15}{18}$

Similarity

$CORN \sim MAIZ$

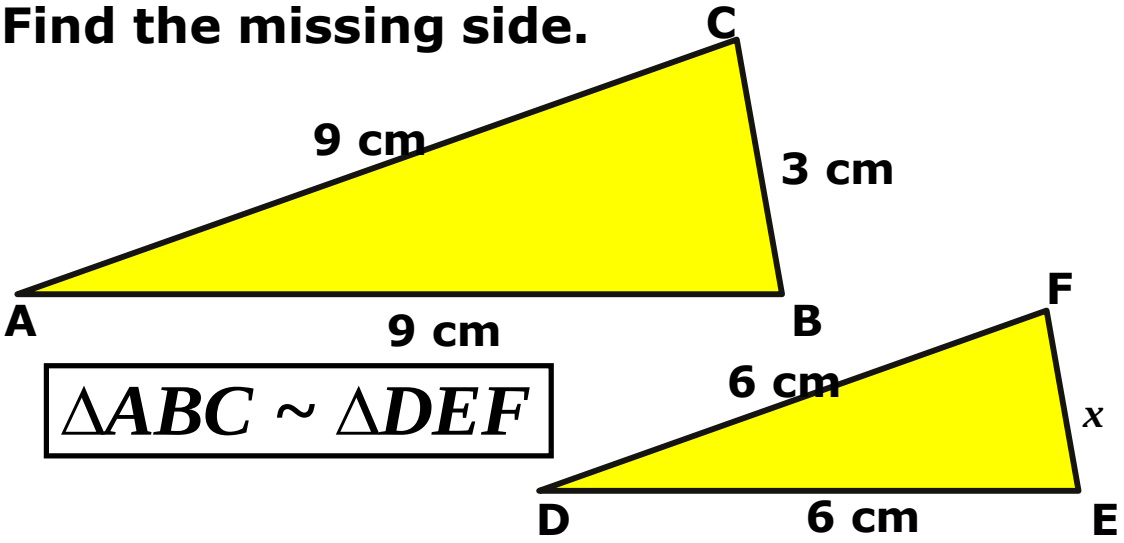


List 3 properties of similar shapes:

- Same shape, different size
- Corresponding angles are congruent
- Corresponding sides are proportional

PRACTICE

4) Find the missing side.

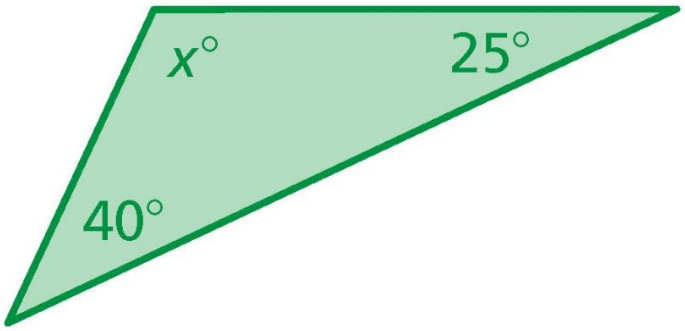


$\Delta ABC \sim \Delta DEF$

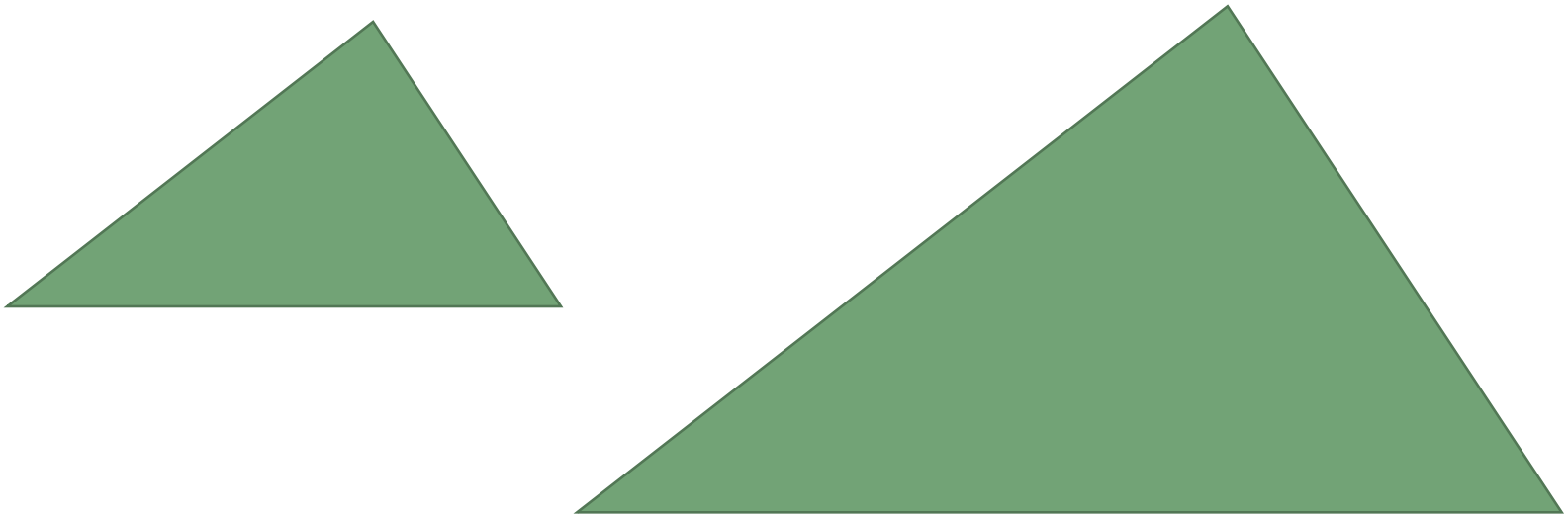
Review

Find the measures of the interior angles algebraically. SHOW WORK!

5)



Third Angle Rule



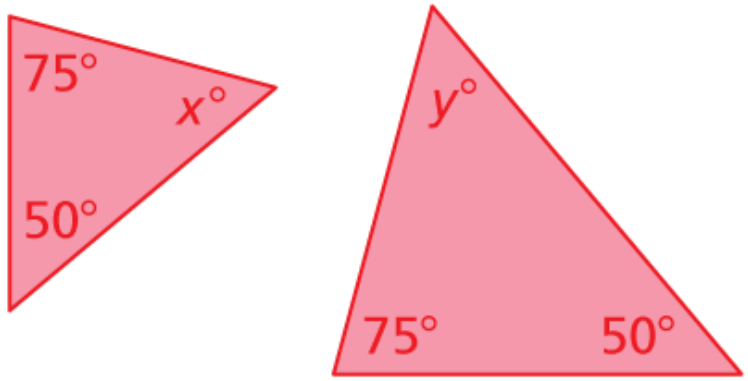
If ____ _____ in one triangle are congruent

to ____ _____ in an other triangle, then

____ _____ _____ _____ _____ .

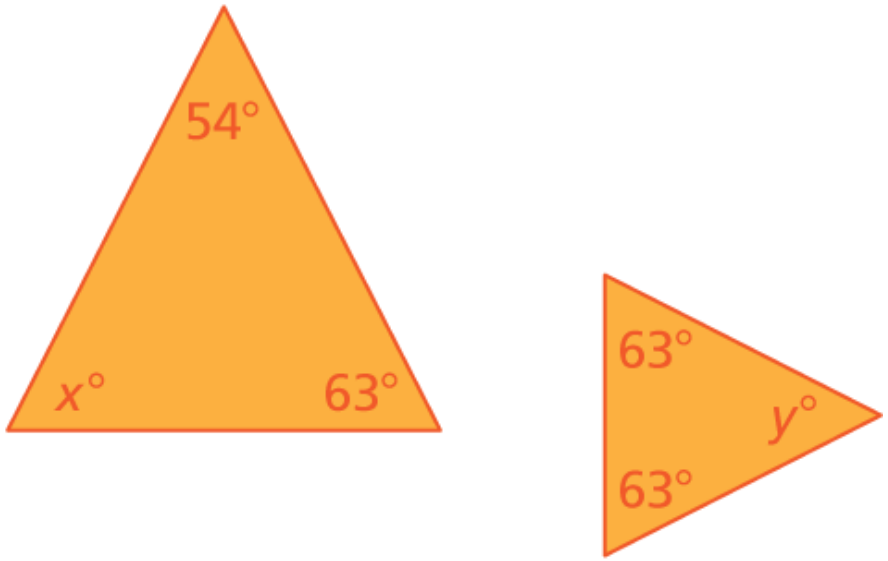
6) **Tell whether the triangles are similar. Explain.**

a.



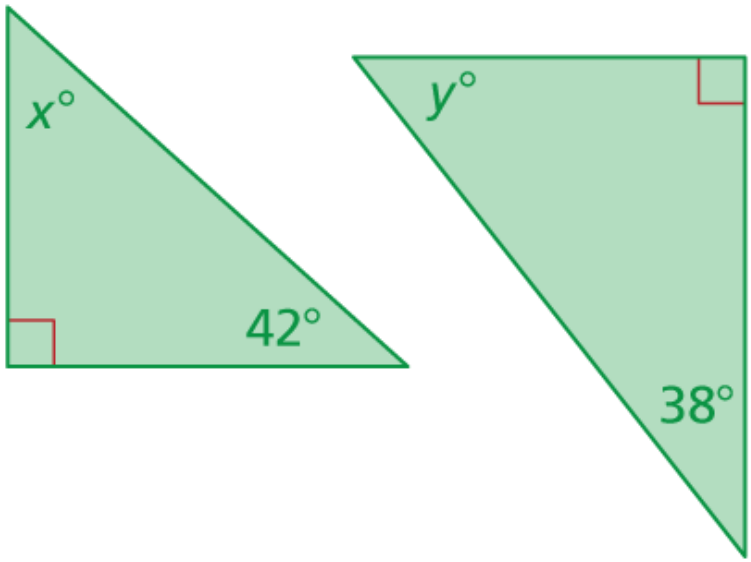
6) **Tell whether the triangles are similar. Explain.**

b.



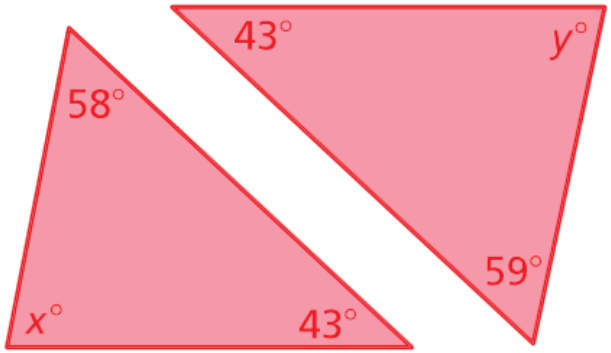
6) **Tell whether the triangles are similar. Explain.**

c.

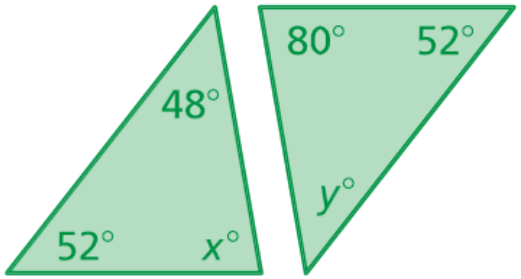


7) **Tell whether the triangles are similar. Explain.**

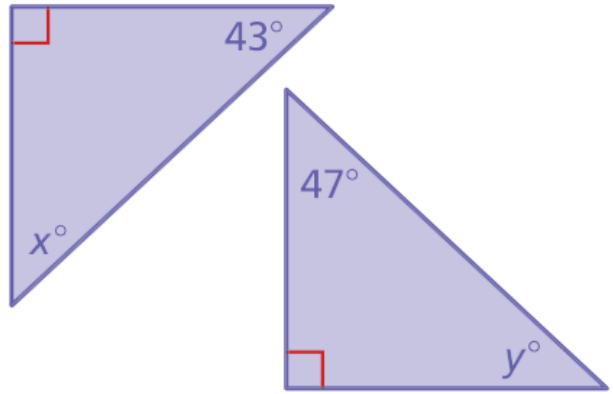
a.



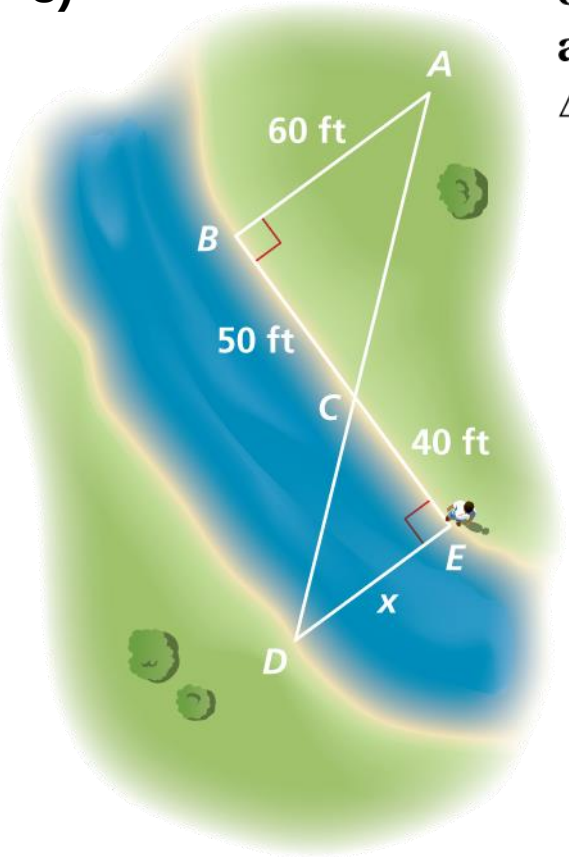
b.



c.



8)



You plan to cross a river and want to know how far it is to the other side. You take measurements on your side of the river and make the drawing shown. (a) Explain why $\triangle ABC$ and $\triangle DEC$ are similar. (b) What is the distance x across the river?