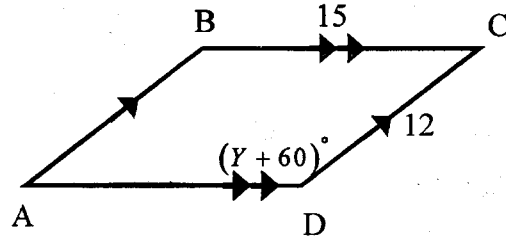
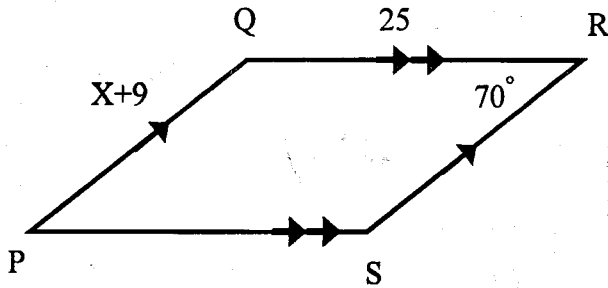


Similar Figures Warm-Up!

Name: _____

Use the diagram to answer the following questions:



1. IF $\square PQRS \sim \square ABCD$, find the following:

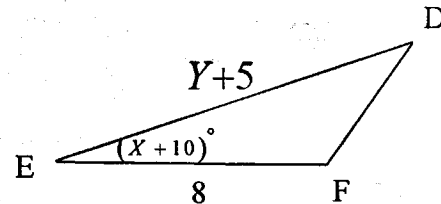
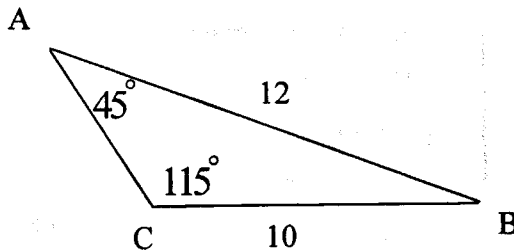
- A) The scale factor of $\square ABCD$ to $\square PQRS$ _____
- B) The scale factor of $\square PQRS$ to $\square ABCD$ _____
- C) The values of x and y . (show your reasoning)

$X =$ _____ $Y =$ _____

D) The perimeter of $\square PQRS$ _____

E) The ratio of the perimeter of $\square PQRS$ to $\square ABCD$ _____

2. The two triangles are similar. ($\triangle ABC \sim \triangle DEF$) Find x and y . Show any proportions you use.



$X =$ _____ $Y =$ _____

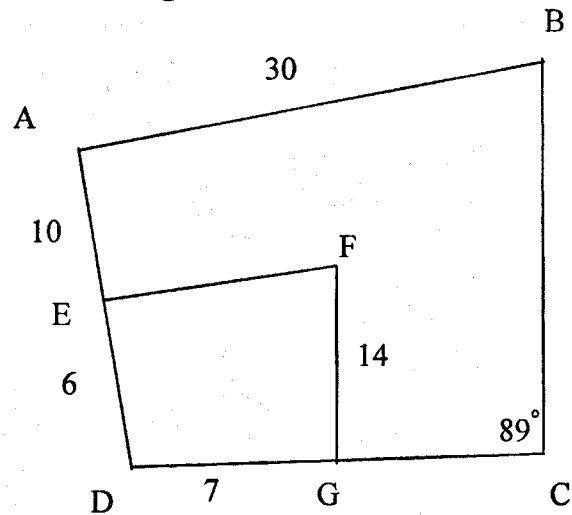
3. Given that $ABCD \sim EFGD$, find the following. Show work!

A) $BC =$ _____

B) $EF =$ _____

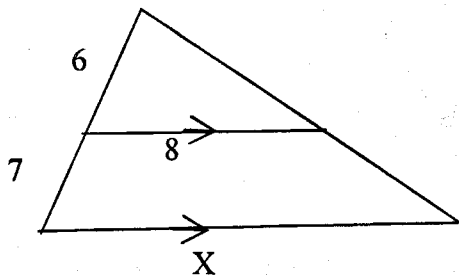
C) $m\angle DGF =$ _____

D) The scale factor of $ABCD$ to $EFGD$: _____

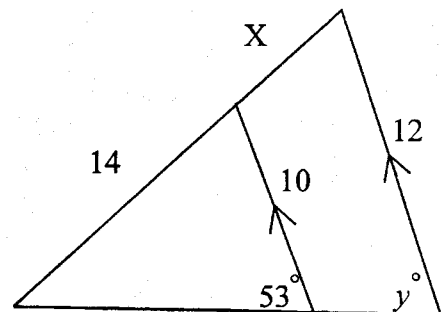


4. The overlapping triangles are similar. Find x and/or y . Show Work!

A)



B)



Similar Triangles

Ways To Prove Triangles Similar



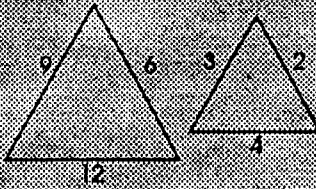
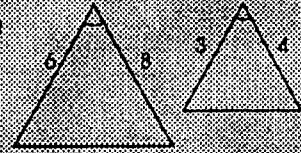
Keep in mind . . .

Every accomplishment great or small,
starts with the right decision, "I'll try."



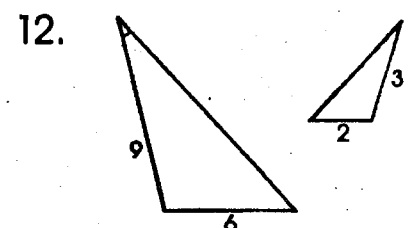
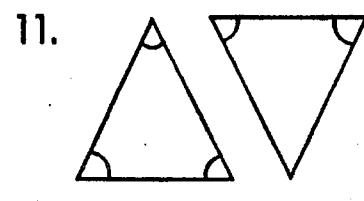
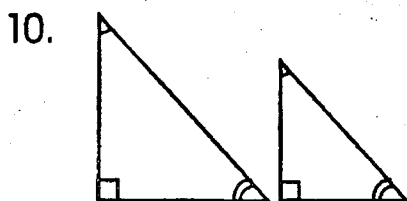
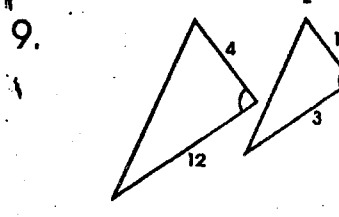
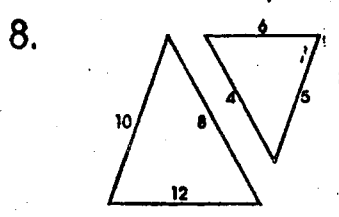
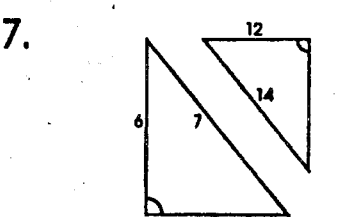
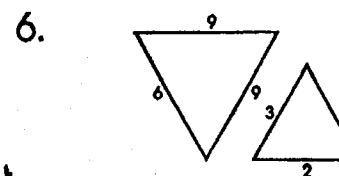
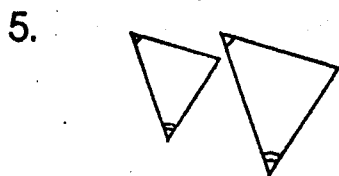
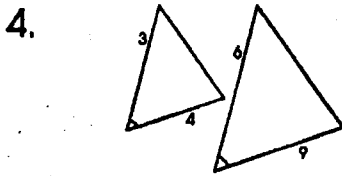
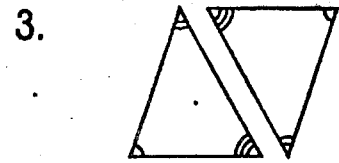
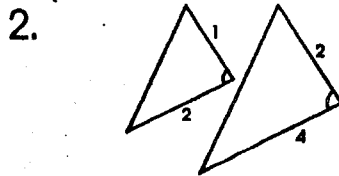
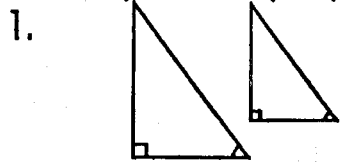
AA (angle, angle) or AAA (angle, angle, angle) = 2 or 3 angles of one triangle congruent to the corresponding angles of another triangle $\Rightarrow \sim \Delta s$ (corresponding sides are proportional).

SAS (side, angle, side) = two sides of one triangle are proportional to the corresponding sides of another triangle and the included angles are congruent $\Rightarrow \sim \Delta s$.



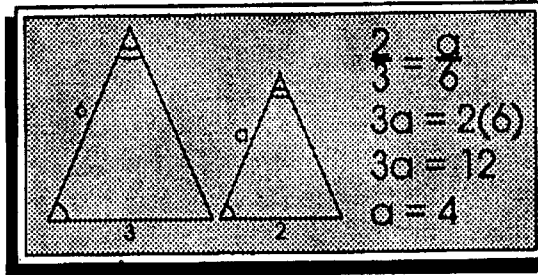
SSS (side, side, side) = three sides of one triangle are proportional to the corresponding sides of another triangle $\Rightarrow \sim \Delta s$.

Identify which property will prove these triangles similar.



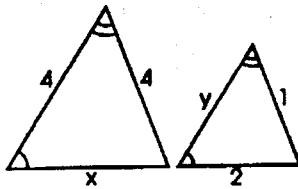
Similar Triangles

Working with Similar Triangles

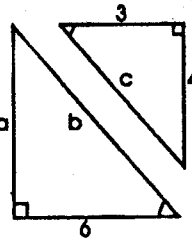


Find the labeled lengths.

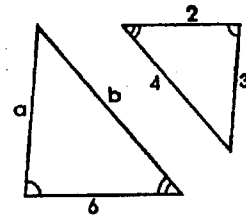
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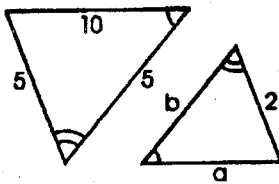
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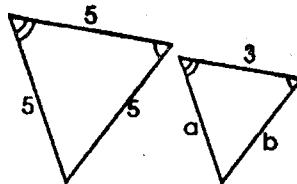
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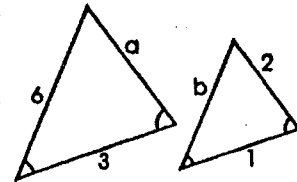
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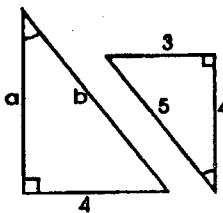
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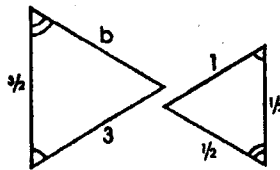
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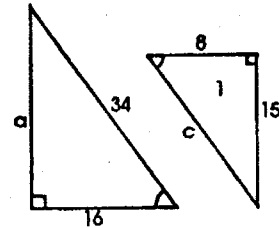
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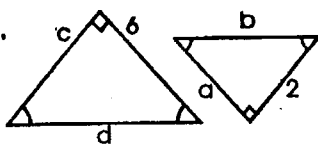
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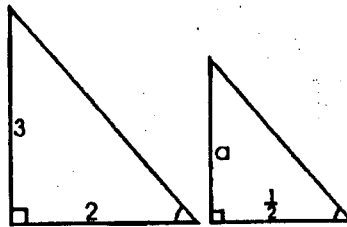
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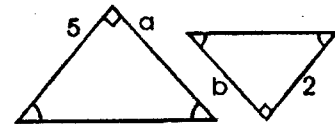
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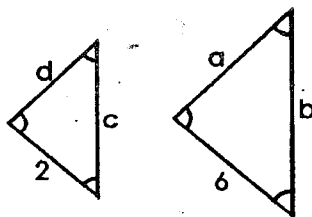
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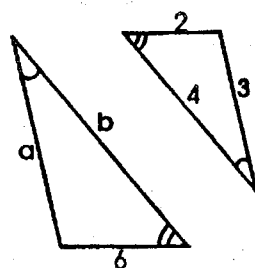
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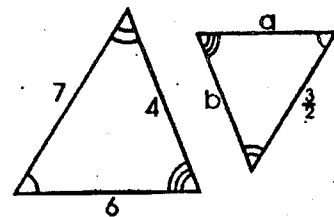
13.



14.



15.



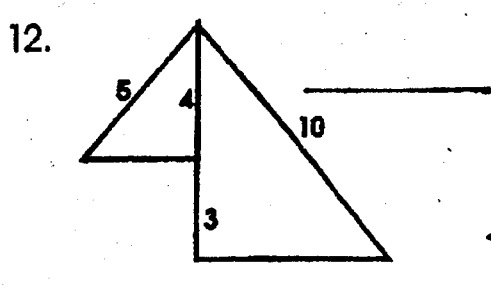
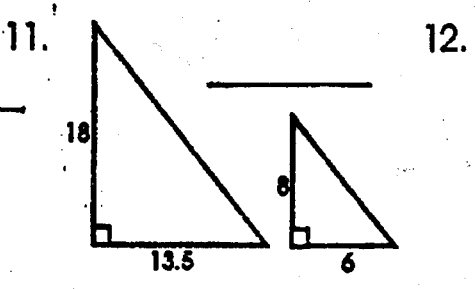
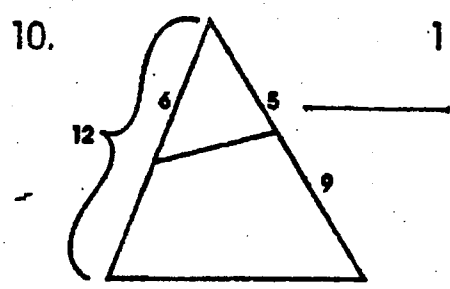
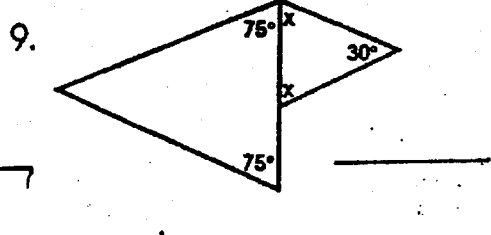
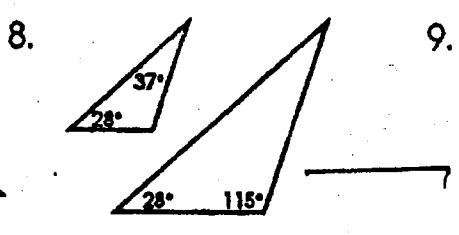
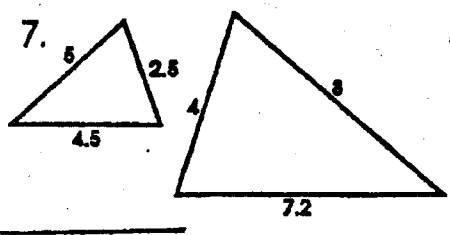
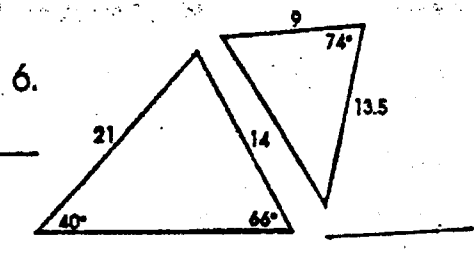
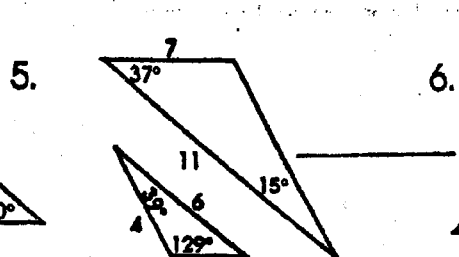
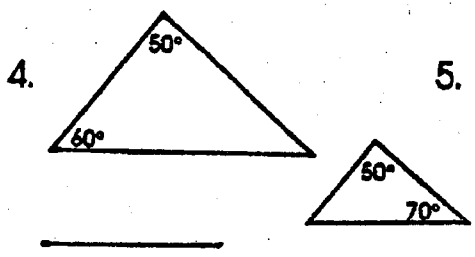
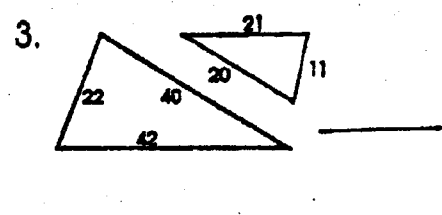
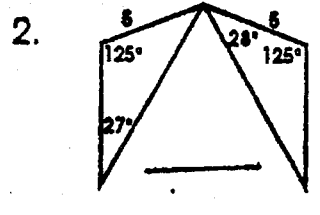
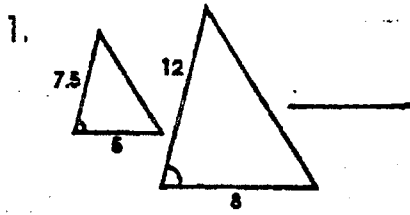
Practice with Similar Triangles

Name: _____

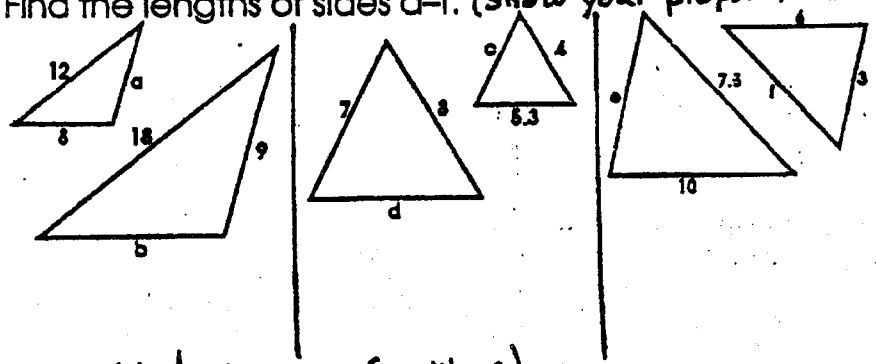
Per: _____

Date: _____

State whether each pair of triangles is similar by AA~, SSS~ or SAS~. If none of these apply, write N.



13. Find the lengths of sides a-f. (Show your proportions below!) (Figures are ~)

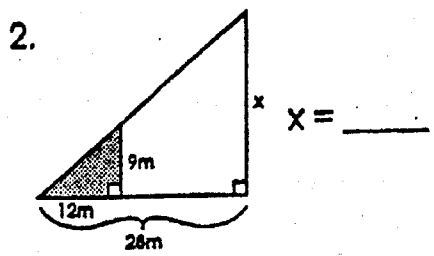
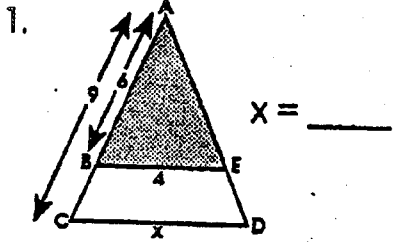


a = _____ d = _____
 b = _____ e = _____
 c = _____ f = _____

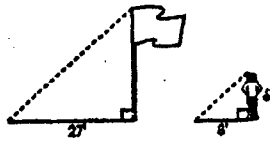
Scrambled Answers (+ extras)

AA~ 5 SAS~ 10.6 SAS~ N
 SSS~ 3.5 SAS~ 3 N 12 N
 SSS~ 7 AA~ 6 SAS~ AA~ 4.5 SSS~
 8-5

Find each missing measure. The triangles are similar as they appear. Show your proper work.



3. A flagpole casts a shadow 27 feet long. A person standing nearby casts a shadow 8 feet long. If the person is 6 feet tall, how tall is the flagpole?



4. Christopher wants to reduce a triangular pattern with sides 16, 16 and 20 centimeters. If the longest side of the new pattern is to be 15 centimeters, how long should the other 2 sides be?

5. A 9 foot ladder leans against a building 7 feet above the ground. At what height would a 15 foot ladder touch the building if both ladders form the same angle with the ground?

6. A flagpole casts a shadow 24 feet long. A flower standing nearby casts a shadow 3 feet long. If the flagpole is 12 feet tall, how tall is the flower?

7. Sam wants to enlarge a triangle with sides 3, 6 and 6 inches. If the shortest side of the new triangle is 13 inches, how long will the other two sides be?

8. A 6 foot ladder leans against a building 4 feet above the ground. At what height would a 15 foot ladder touch the building if both ladders form the same angle with the ground?

Scrambled Answers (+ extras)

20.25 10 21 26 6 8-6 $11\frac{2}{3}$ 12 15 $1\frac{1}{2}$ $20\frac{3}{8}$