

Learning Objective(s) _____:

**Main Ideas/
Questions**
Similar Figures
Characteristics

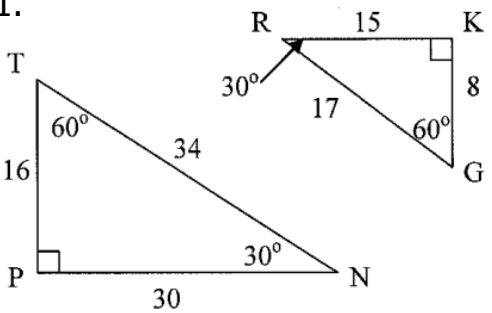
Notes
• **Similar Figures** – Polygons that have the same _____, but different _____

Two polygons are similar if and only if:
 ✓ **ALL** corresponding **angle measures** are _____
 ✓ **ALL** corresponding **sides** are _____ using a _____

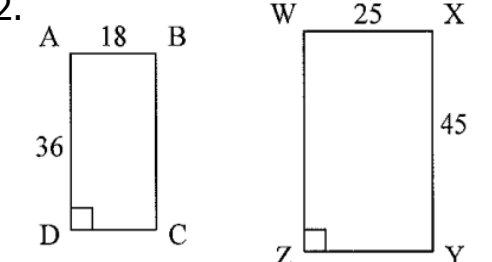
When two polygons are similar, we can write a **similarity** statements using the symbol " ~ ".

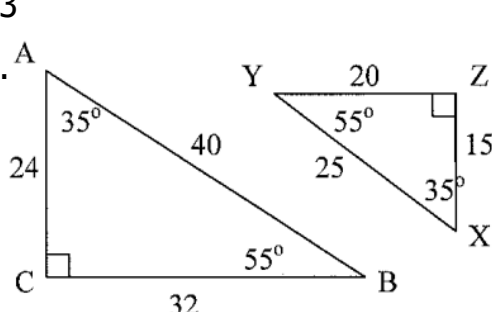
Examples

Are these figures similar? If so, write a similarity statement.

1.  **Check angles:** **Check sides:**

$\square ABCD$ and $\square WXYZ$ are rectangles

2.  **Check angles:** **Check sides:**

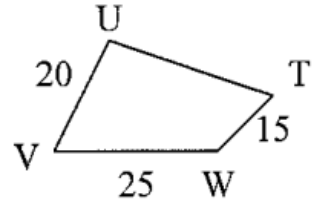
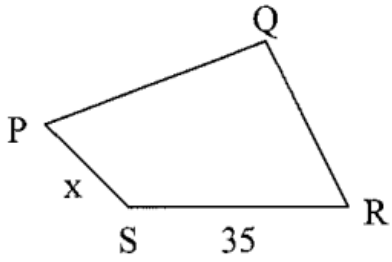
3. 

**Main Ideas/
Questions**
Examples

Notes

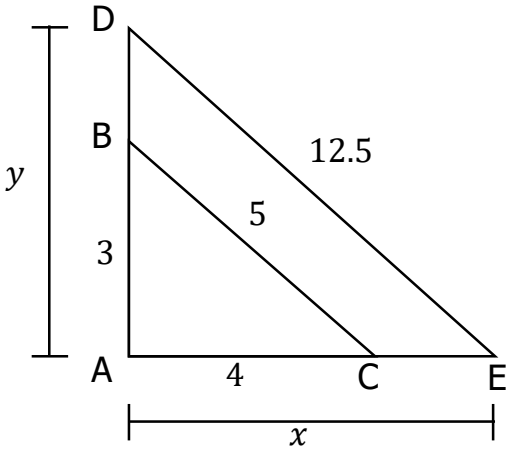
4. Given $\square PQRS \sim \square TUVW$.

Write a proportion to find the length of \overline{PS} .



5. Given $\triangle ABC \sim \triangle ADE$.

Solve for x and y .



Word Problem
Examples

6. Sam went to Walgreens to enlarge a picture. Currently, his picture is a 4" x 6". He wants his new picture to be a 10" x 15". What scale factor does he need to use on his original?

7. Sally is standing next to a building and notices her shadow is 10 ft long. If the building's shadow is 100 ft long and she is 5.5 ft tall, how tall is the building?

**Main Ideas/
Questions**

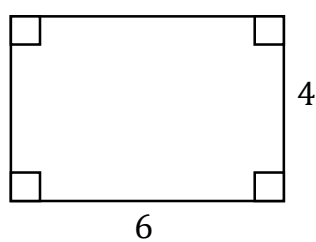
Notes

8. Chris wants to reduce a triangular pattern for the quilt he is making. His current pattern sides are 16, 16, and 20 cm. If the longest side of the new pattern is to be 15 cm, how long should the other two sides be?

9. A 36-inch yardstick casts a 21-foot shadow, how tall is a building whose shadow is 168 feet?

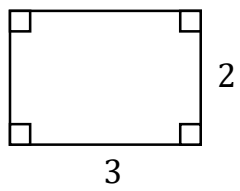
10. A model house has a scale of 1 in : 2 ft. If the real house is 26 ft. wide, then how wide is the model house?

Scale Factor
Extension



A. What is the **scale factor** from the small rectangle to the big rectangle?

B. How did the **perimeter** change?



C. How did the **area** change?

Summary

Summarize the lesson in your own words with the help of the guided questions.

What important characteristics do similar figures have in common? How does the scale factor help you solve for missing sides of similar figures?