

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Topic: \_\_\_\_\_

Class: \_\_\_\_\_

Main Ideas/Questions	Notes/Examples
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## SIMILAR POLYGONS

- Polygons with the same \_\_\_\_\_ but different \_\_\_\_\_.
- Polygons are similar if:
  - (1) \_\_\_\_\_
  - (2) \_\_\_\_\_
- The ratio of corresponding sides is called the \_\_\_\_\_.
- If polygons are similar, then their \_\_\_\_\_ are also proportional.

## SCALE FACTOR

*(order matters!)*

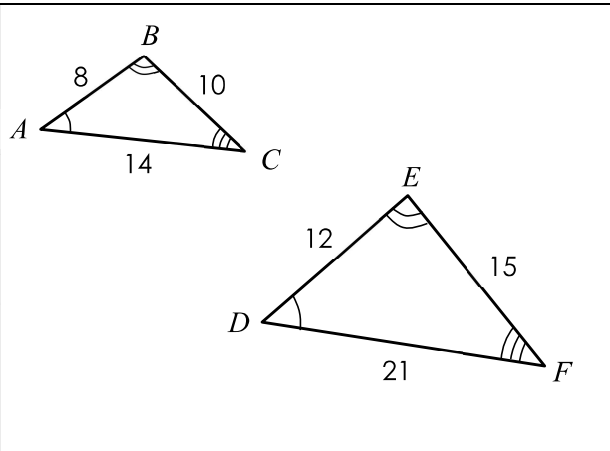
What is the scale factor of  $\triangle ABC$  to  $\triangle DEF$ ?

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What is the scale factor of  $\triangle DEF$  to  $\triangle ABC$ ?

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What is the ratio of the perimeter of  $\triangle DEF$  to  $\triangle ABC$ ?



## Similarity Statements

Symbol for Similar:

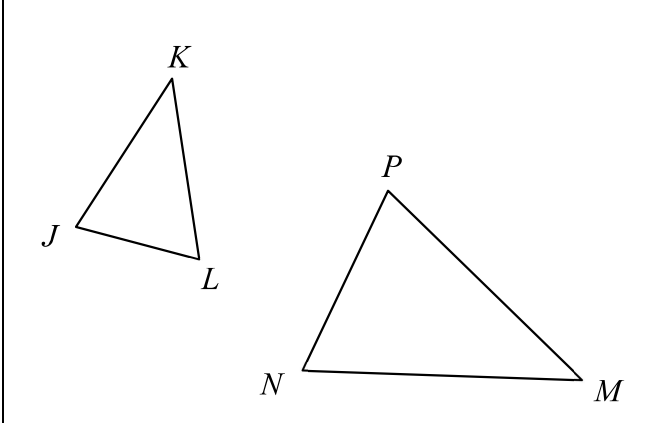
**A valid similarity statement must match corresponding angles and sides!**

**Write a similarity statement for the triangles above:**

\_\_\_\_\_

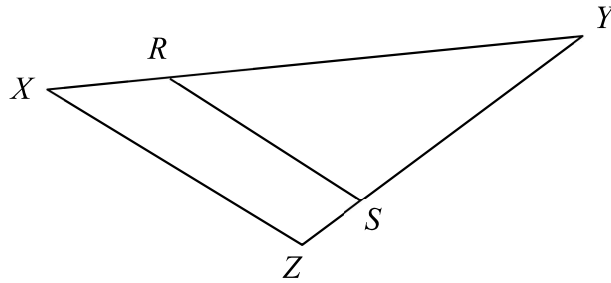
**Directions:** List all congruent angles and write a proportion that relates the corresponding sides.

1.  $\triangle JKL \sim \triangle PMN$



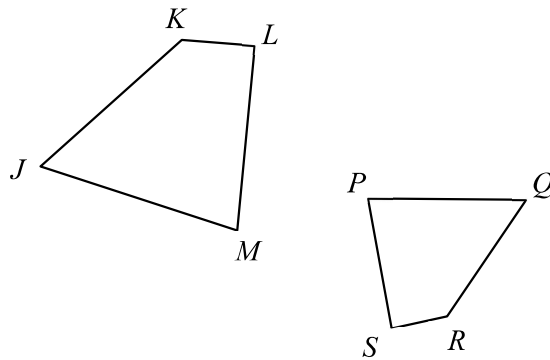
Angles
Sides

2.  $\triangle XYZ \sim \triangle RYS$



Angles
Sides

3.  $JKLM \sim QRSP$

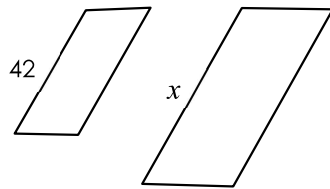


Angles
Sides

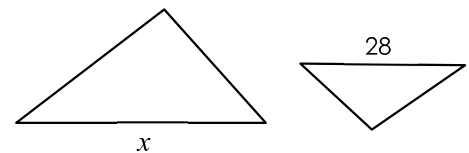
## FINDING SIDE LENGTHS

(using proportions!)

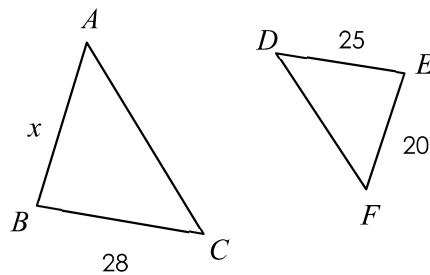
4. If the figures below are similar with a scale factor of 2:3, find the value of  $x$ .



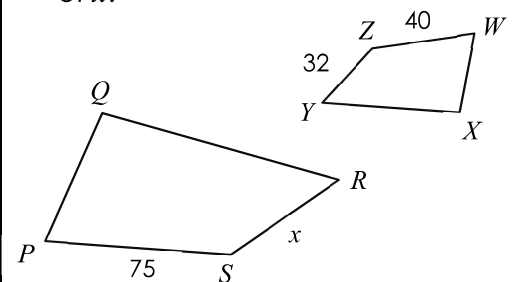
5. If the figures below are similar with a scale factor of 6:5, find the value of  $x$ .



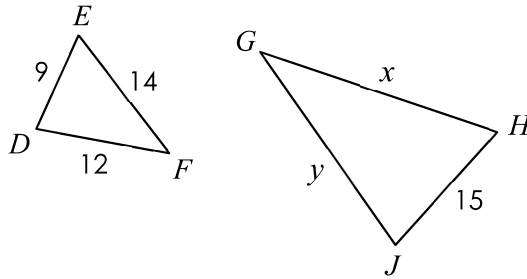
6. If  $\triangle ABC \sim \triangle DEF$ , find the value of  $x$ .



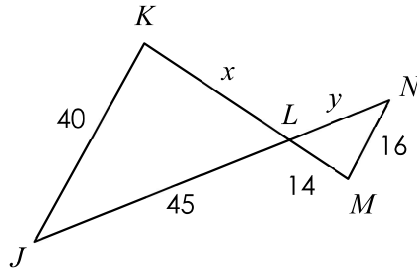
7. If  $PQRS \sim WXYZ$ , find the value of  $x$ .



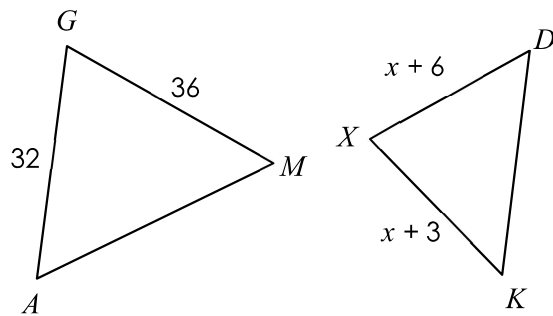
8. If  $\triangle DEF \sim \triangle HJG$ , find the values of  $x$  and  $y$ .



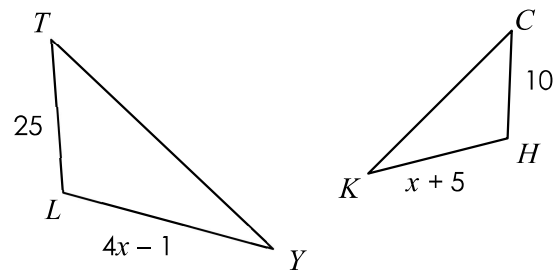
9. If  $\triangle JKL \sim \triangle NML$ , find the values of  $x$  and  $y$ .



10. If  $\triangle AGM \sim \triangle KXD$ , find the value of  $x$ .



11. If  $\triangle TLY \sim \triangle CHK$ , find  $LY$ .



12. If  $\triangle BNV \sim \triangle BRG$ ,  $BR = 4x + 7$ , and  $BG = 18$ , find the value of  $x$ .

