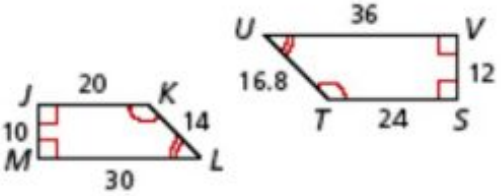
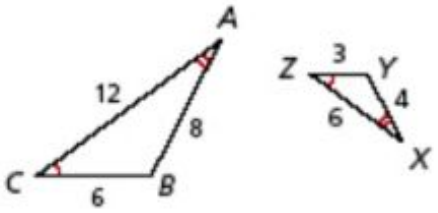
Similar Figures Worksheet

For each pair of figures below, identify each pair of congruent angles and proportional sides.

1.

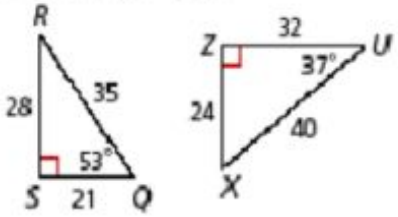


2.



Determine whether the polygons are similar. If so, write the similarity ratio and a similarity statement.

3. $\triangle RSQ$ and $\triangle UXZ$

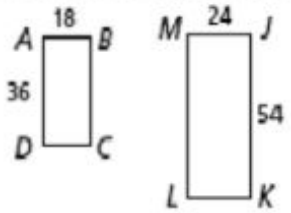


Similar : Y or N

Similarity Statement :_____~_____

Similarity Ratio :_____

4. rectangles *ABCD* and *JKLM*



Similar : Y or N

Similarity Statement :_____~_____

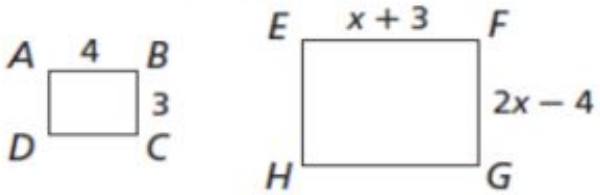
Similarity Ratio :_____

5. **Hobbies** The ratio of the model car's dimensions to the actual car's dimensions is $\frac{1}{56}$. The model has a length of 3 in. What is the length of the actual car?

6. $\square IKLM \sim \square NOPO$. If $m\angle K = 75°$, , name two 75° angles in $\square NOPQ$.

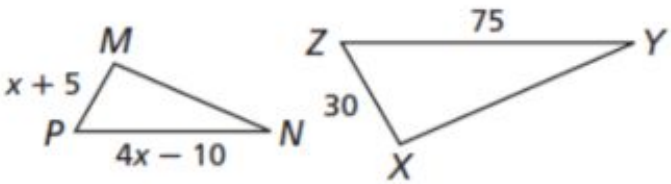
7. Solve for x

$ABCD \sim EFGH$



8. Solve for x.

$\triangle MNP \sim \triangle XYZ$



9. Which value of *y* makes the two rectangles similar?

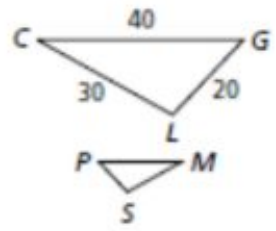
Ⓐ 3 Ⓒ 25.2

Ⓑ 8.2 Ⓓ 28.8

10. $\triangle CGL \sim \triangle MPS$. The similarity ratio of $\triangle CGL$ to $\triangle MPS$ is $\frac{5}{2}$. What is the length of $\overline{PS}$?

Ⓕ 8 Ⓗ 50

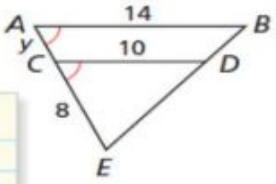
Ⓖ 12 Ⓙ 75



11. Draw ΔJKL and ΔMNP. Determine if you can conclude that $\Delta JKL \sim \Delta MNP$ based on the given information. If so, which postulates or theorem justifies your response?

$\angle K \cong \angle N, \frac{JK}{MN} = \frac{KL}{NP}$ $\angle J \cong \angle M, \frac{JL}{MP} = \frac{KL}{NP}$

12. **ERROR ANALYSIS** Which solution for the value of y is incorrect? Explain the error.



A

$\triangle ABE \sim \triangle CDE$ by AA ~,
so $\frac{14}{8+y} = \frac{10}{8}$. Then

$10(8 + y) = 8(14)$, or
$80 + 10y = 112$. So
$10y = 32$ and $y = 3.2$.

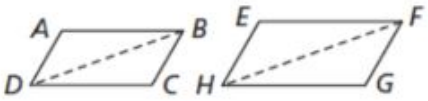
B

$\triangle ABE \sim \triangle CDE$ by AA ~,
so $\frac{8}{10} = \frac{y}{14}$. Therefore

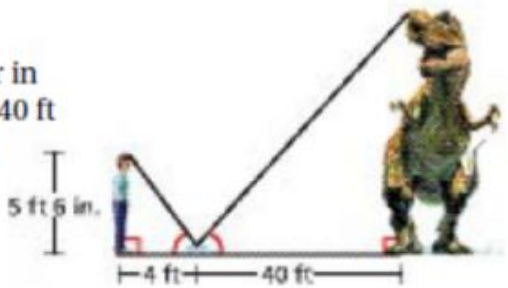
$8(14) = 10y$, which
means $10y = 112$ and
$y = 11.2$.

13. $\square ABCD \sim \square EFGH$. Which similarity postulate or theorem lets you conclude that $\triangle BCD \sim \triangle FGH$?

(A) AA (C) SAS
(B) SSS (D) None of these



14. **Measurement** To find the height of a dinosaur in a museum, Amir placed a mirror on the ground 40 ft from its base. Then he stepped back 4 ft so that he could see the top of the dinosaur in the mirror. Amir's eyes were approximately 5 ft 6 in. above the ground. What is the height of the dinosaur?



15. **Measurement** Jenny is 5 ft 2 in. tall. To find the height of a light pole, she measured her shadow and the pole's shadow. What is the height of the pole?