

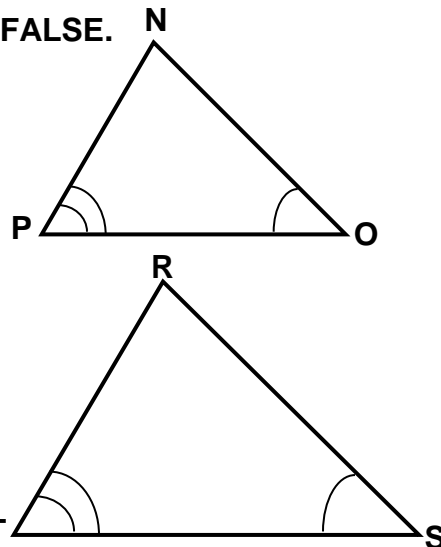
NAME \_\_\_\_\_ DATE \_\_\_\_\_ PER. \_\_\_\_\_

**REVIEW #7: SIMILARITY & PROPORTIONAL REASONING**

**PART 1: SIMILAR POLYGONS**

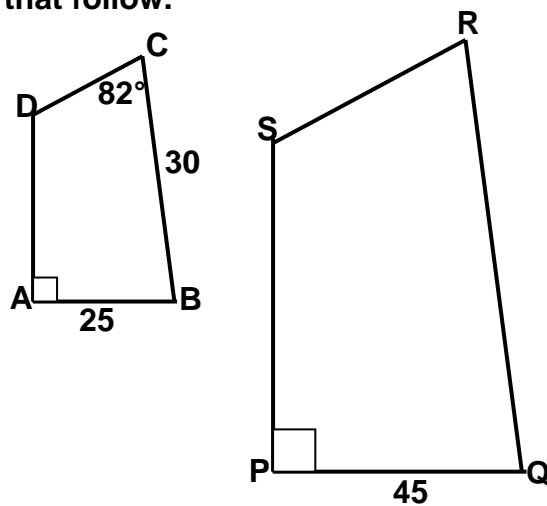
Determine whether the following statements are TRUE or FALSE.

1. TRUE or FALSE	$\angle P \cong \angle T$ ?
2. TRUE or FALSE	$\overline{PN}$ is included between $\angle N$ and $\angle O$ ?
3. TRUE or FALSE	$\angle R$ is included between $\overline{TR}$ and $\overline{SR}$ ?
4. TRUE or FALSE	$OP:ST$ ?



**ABCD is similar to PQRS below. Answer the questions that follow.**

5. _____	What is the common ratio of PQRS to ABCD?
6. _____	Find $m\angle R$ .
7. _____	Find QR.



**Two similar polygons are shown. Find the values of 'x' and 'y'.**

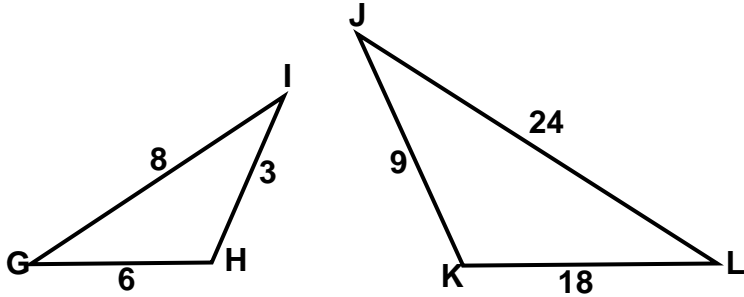
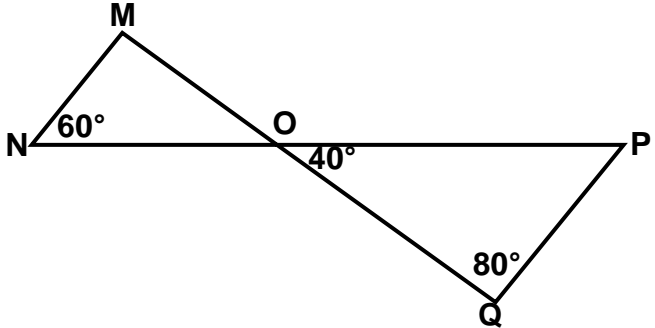
<p>8. <math>x =</math> _____</p> <p><math>y =</math> _____</p>	
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<p>9. <math>x =</math> _____ <math>y =</math> _____</p>	
<p>10. <math>x =</math> _____ <math>y =</math> _____</p>	
<p>11. <math>x =</math> _____ <math>y =</math> _____</p>	

**PART 2: SIMILAR TRIANGLES**

Determine if each pair of triangles is similar. If yes, tell how and write a similarity statement.

<p>12. YES or NO How? _____ <math>\Delta</math> _____ <math>\sim</math> <math>\Delta</math> _____</p>	
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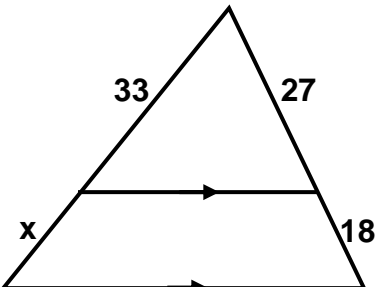
<p>13. YES or NO</p> <p>How? _____</p> <p><math>\Delta</math> _____ <math>\sim</math> <math>\Delta</math> _____</p>	
<p>14. YES or NO</p> <p>How? _____</p> <p><math>\Delta</math> _____ <math>\sim</math> <math>\Delta</math> _____</p>	

Find the correct answer to each problem, then write the answer in the blank provided.

<p>_____ 15.</p>	<p>The ratio of the measures of two complementary angles is 5:4. What is the measure of the smaller angle?</p>
<p>_____ 16.</p>	<p>The sides of a triangle are in the ratio 3:5:8. If the perimeter is 96, what is the length of the longest side?</p>

**PART 3: PROPORTIONAL PARTS**

Find the value(s) of 'x' (and 'y' where applicable) in each of the following.

<p>17. <math>x =</math> _____</p>	
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<p>18. <math>x =</math> _____</p>	
<p>19. <math>x =</math> _____ <math>y =</math> _____</p>	
<p>20. _____</p>	<p>Find CE.</p>

**PART 5: INDIRECT MEASUREMENT**  
Find the indicated measures.

<p>21. _____</p>	<p>Jonathan is 3 ft. from a lamppost that is 12 ft. high. The lamppost and its shadow form the legs of a right triangle. Jonathan is 6 ft. tall and is standing parallel to the lamppost. How long is Jonathan's shadow?</p>
<p>22. _____</p>	<p>A 40 cm tomato plant casts a 25 cm shadow. How tall is the corn stalk if its shadow is 280 cm long?</p>

23. _____	A tree that fell during a storm landed on the top of a wall so that it leans against the wall. Jeff who is 5 feet tall stands under the tree so that his head just touches the wood. He is 5 feet from the wall and 10 feet from the base of the tree. Find the height of the wall.
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**PART 5: Ratios & Proportions****Solve each proportion.**

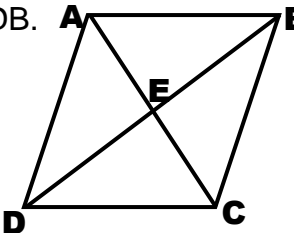
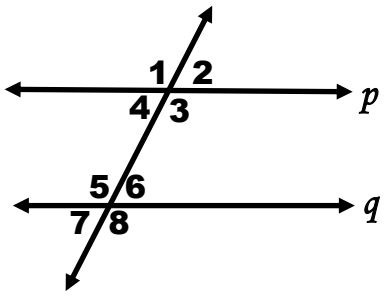
24. $b =$ _____	$\frac{b}{63} = \frac{3}{7}$	25. $a =$ _____	$\frac{a-3}{8} = \frac{3}{4}$
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**Set up a proportion and solve.**

26. _____	The ratio of teachers to students at A & M Consolidated High School is 1 to 14. If there are 2800 students, how many teachers are there?
27. _____	Amy must check 740 CD players for defects. Only 2 of the first 40 have defects. Using this information, what is the best prediction of the total number of CD players that will be defective?

**PART 6: REVIEW**

Find the indicated measures.

<p>28. _____</p>	<p>ABCD is a rhombus. If <math>m\angle ABD = 24^\circ</math>, find <math>m\angle ADB</math>.</p> 
<p>29. _____ _____</p>	<p>Determine if the following lengths can be sides of a triangle. If yes, classify the triangle by <u>SIDES</u>.</p> <p>12, 16, 20</p>
<p>30. _____</p>	<p>Find the <u><math>m\angle 1</math></u> if <math>p \parallel q</math>, <math>m\angle 1 = (4x + 7)^\circ</math>, and <math>m\angle 7 = (8x + 53)^\circ</math>.</p> 
<p>31. _____</p>	<p>Find <math>m\angle RSU</math> if ST bisects <math>\angle RSU</math> and <math>m\angle TSU = (2x + 7)^\circ</math> and <math>m\angle RST = (6x - 9)^\circ</math>.</p>