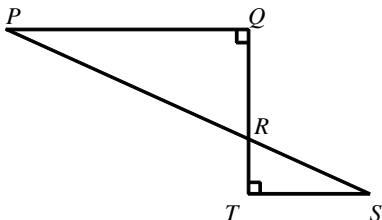


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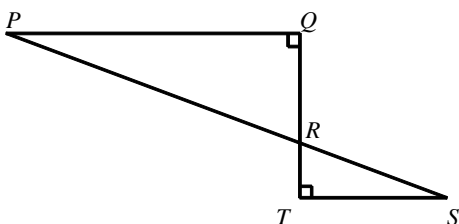
P.I. G.G.45: Investigate, justify, and apply theorems about similar triangles

1. In the figure shown, $PQ = 12$ centimeters, $ST = 6$ centimeters and $m\angle QRP = 72$. Find $m\angle S$.



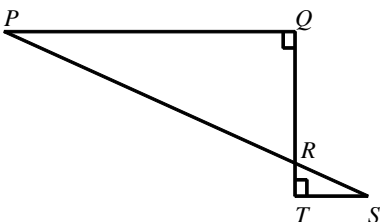
- [A] 72 [B] 36 [C] 108 [D] 18

2. In the figure shown, $PQ = 12$ centimeters, $ST = 6$ centimeters and $m\angle QRP = 75$. Find $m\angle S$.

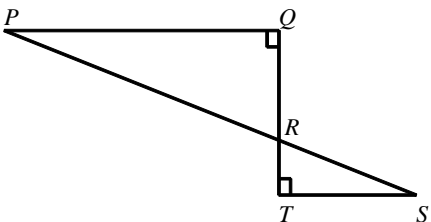


- [A] 105 [B] 30 [C] 15 [D] 75

3. In the figure shown, $PQ = 32$ centimeters, $ST = 8$ centimeters and $m\angle QRP = 72$. Find $m\angle S$.

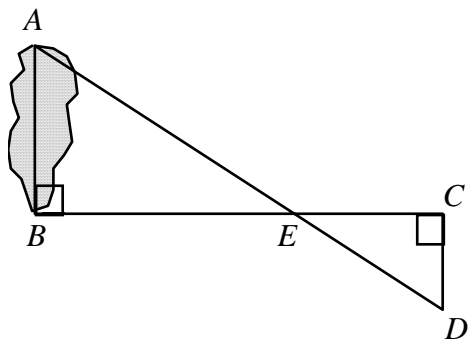


4. In the figure shown, $PQ = 18$ centimeters, $ST = 9$ centimeters and $m\angle QRP = 74$. Find $m\angle S$.



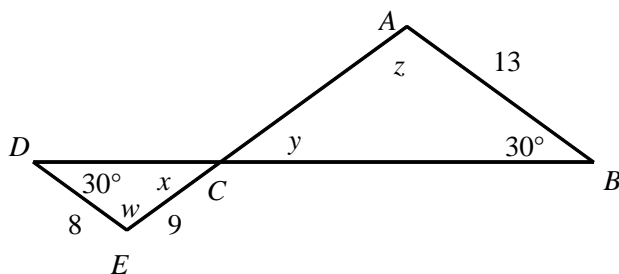
NAME: _____

5. To find the distance across the lake in the figure below, which of the following proportions can you use?



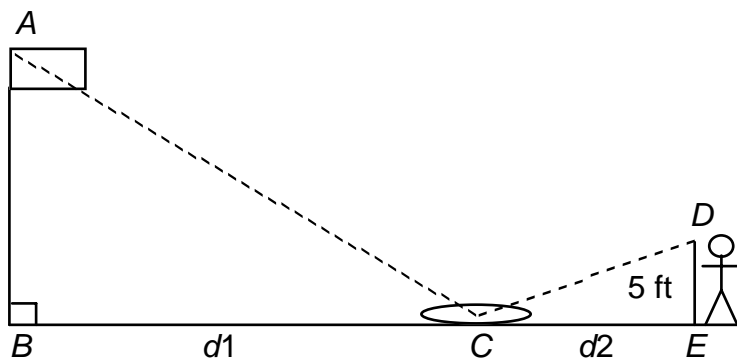
- [A] $\frac{BE}{CE} = \frac{AB}{CD}$ [B] $\frac{BE}{EC} = \frac{CD}{AB}$ [C] $\frac{AB}{BE} = \frac{CD}{DE}$ [D] $\frac{AB}{AE} = \frac{DE}{CD}$

6. Which statement is true for the triangles shown below?



- [A] $\frac{CE}{CA} = \frac{CB}{CD}$ [B] $m\angle z \neq m\angle w$ [C] $m\angle x = 30$ [D] $AC = 14.625$

7. Karen wanted to measure the height of her school's flag pole. She placed a mirror on the ground d_1 feet from the flag pole, then walked backwards until she was able to see the top of the pole in the mirror. Her eyes were 5 ft above the ground and she was d_2 ft from the mirror. Using similar triangles, find the height of the flagpole if $d_1 = 42$ ft and $d_2 = 8$ ft. Round your answer to the nearest hundredth.



[1] D

[2] C

[3] 18

[4] 16

[5] A

[6] D

[7] 26.25 ft