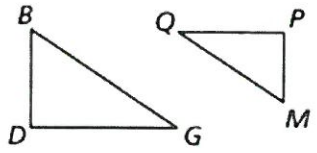
Name: AK Period: _____ Date: _____

8.1-8.3 Practice Quiz

1. List all pairs of congruent angles. Then write the ratios of the corresponding side lengths in a statement of proportionality.

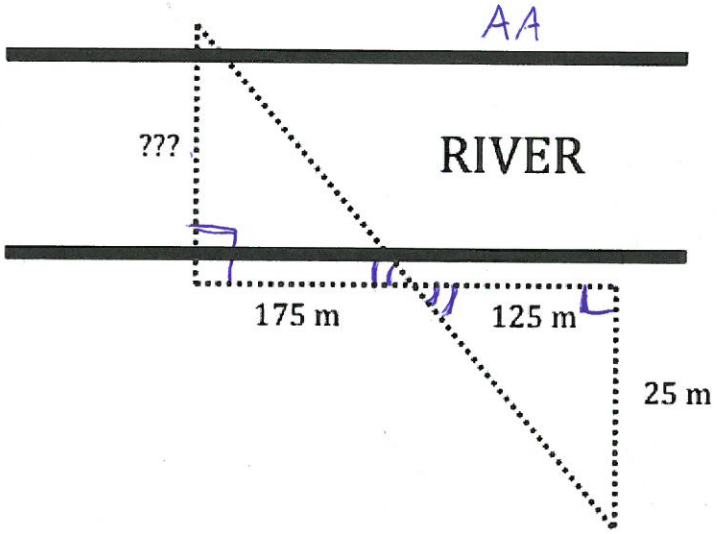
$\triangle BDG \sim \triangle MPQ$



$\angle B \cong \angle M$
$\angle D \cong \angle P$
$\angle G \cong \angle Q$

$\frac{BD}{MP} = \frac{DG}{PQ} = \frac{BG}{MQ}$

2. An engineer is trying to determine the width of a river. A diagram is provided (assume any angles that look right are right). What theorem proves the triangles are similar? Find the width of the river.



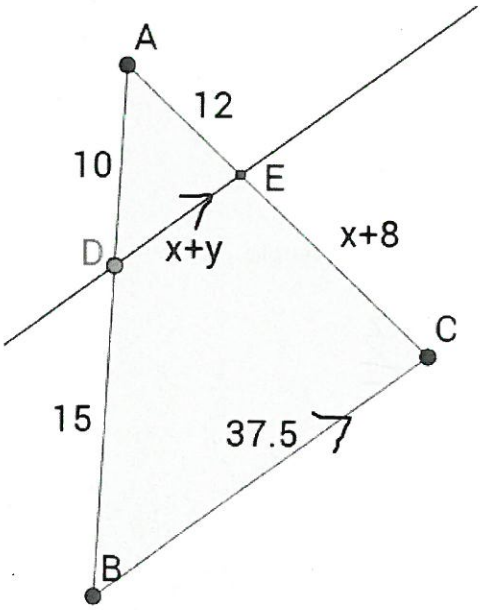
AA

$\frac{x}{175} = \frac{25}{125} \frac{1}{5}$

$\frac{5x}{5} = \frac{175}{5}$

$x = 35$

3. Solve for x and y.



$\frac{10}{25} = \frac{12}{x+20}$

$10x + 200 = 300$

$10x = 100$

$x = 10$

$\frac{2}{5} \frac{10}{25} = \frac{x+y}{37.5}$

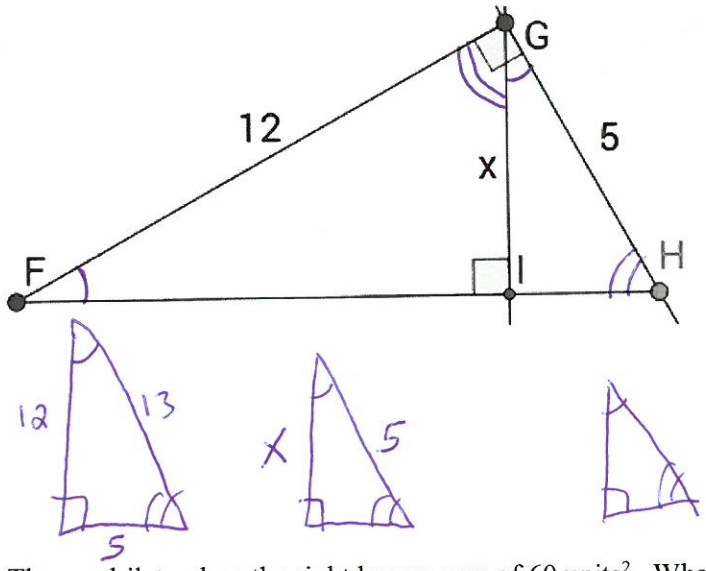
$5x + 5y = 75$

$50 + 5y = 75$

$5y = 25$

$y = 5$

4. Solve for x.

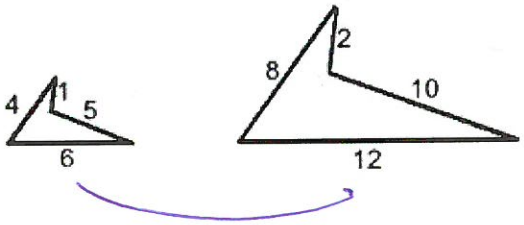


$\frac{13}{5} = \frac{12}{x}$

$\frac{13x}{13} = \frac{60}{13}$

$x = 60/13 \approx 4.6$

5. The quadrilateral on the right has an area of 60 units^2. What is the area of the quadrilateral on the left?

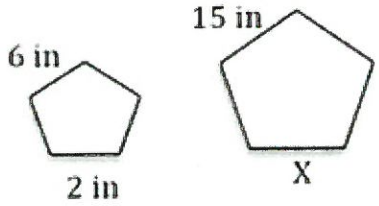


$\frac{60}{4} = 15\ u^2$

$k = 2$

$k^2 = 4$

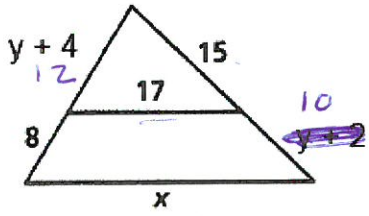
6. The perimeter of the pentagon on the left is 24 units. What is the perimeter of the pentagon on the right?



$k = \frac{15}{6} = 2.5$

$24 \times 2.5 = 60$

7. Solve for x and y. Then find the ratio of the area of the big triangle to the area of the small triangle.



$\frac{y+4}{y+12} = \frac{15}{25} \frac{3}{5}$

$5y + 20 = 3y + 36$

$2y = 16$

$y = 8$

$\frac{3}{5} \frac{12}{20} = \frac{17}{x}$

$3x = 85$

$x = 28.33$