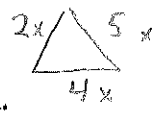
Geometry Name Key Period ____ Date _____

Q3 9-Weeks Review: Chapter 7

1. **SPORTS** Thirty girls tried out for 15 spots on the basketball team. What is the ratio of open spots to the number of girls competing? 15:30 = 1:2

2. The ratio of the measures of three sides of a triangle is 2:5:4, and its perimeter is 165 units. Find the measure of each side of the triangle.



$2x+5x+4x=165$ $11x=165$ $x=15$ (30, 60, 75)

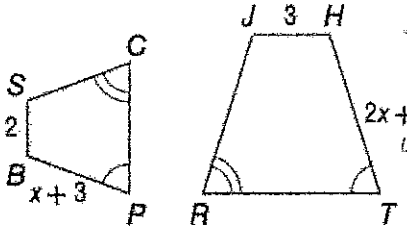
Solve each proportion.

3. $\frac{x}{5}=\frac{28}{100}$ $100x=140$ $x=1.4$

4. $\frac{x-3}{3}=\frac{5}{8}$ $8(x-3)=15$ $8x-24=15$ $8x=39$ $x=4.875$

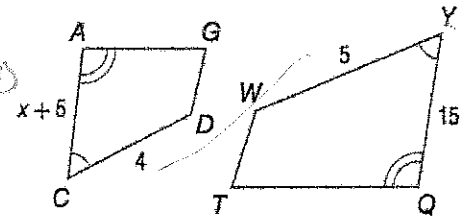
Each pair of polygons is similar. Find the value of x.

5.



$\frac{2}{3}=\frac{x+3}{2x+2}$ $2(2x+2)=3(x+3)$ $4x+4=3x+9$ $x=5$

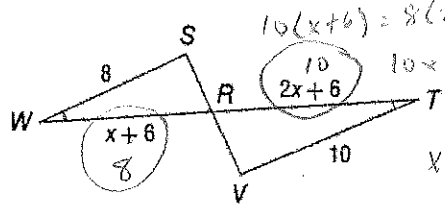
6.



$\frac{4}{5}=\frac{x+15}{15}$ $60=5(x+15)$ $60=5x+125$ $35=5x$ $x=7$

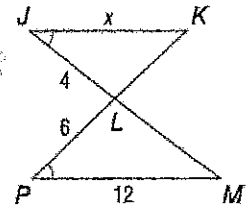
Find each measure.

7. *WR* and *RT*



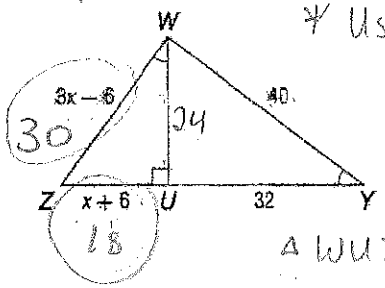
$\frac{x+6}{2x+6}=\frac{8}{10}$ $10(x+6)=8(2x+6)$ $10x+60=16x+48$ $12=6x$ $x=2$

8. *JK*



$\frac{4}{6}=\frac{x}{12}$ $x=8$

9. *WZ*, *UZ*



* Use Pythagorean Theorem to find missing side

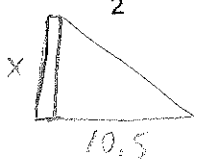
$32^2+y^2=40^2$ $y=24$

$\frac{3x-6}{40}=\frac{x+6}{24}$

$24(3x-6)=40(x+6)$ $72x-144=40x+240$ $32x=384$ $x=12$

$\triangle WUZ \sim \triangle YUW$

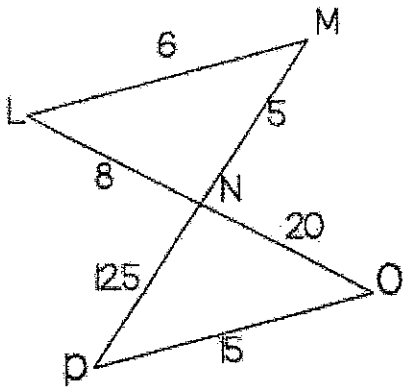
10. **STATUES** Mei is standing next to a statue in the park. If Mei is 5 feet tall, her shadow is 3 feet long, and the statue's shadow is $10\frac{1}{2}$ feet long, how tall is the statue?



$\frac{5}{3}=\frac{x}{10.5}$ $52.5=3x$ $x=17.5$ ft

Are the two triangles similar? If so, state the theorem or postulate (AA, SAS, SSS) and write a similarity statement.

1

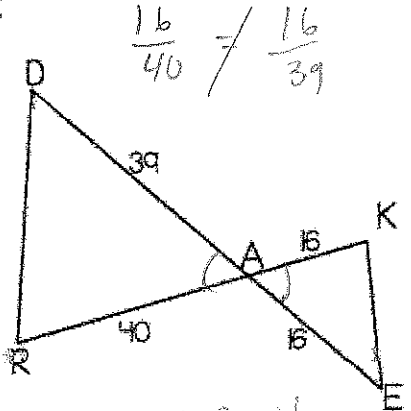


$\frac{5}{10} = \frac{8}{125} = \frac{15}{n}$

Not similar

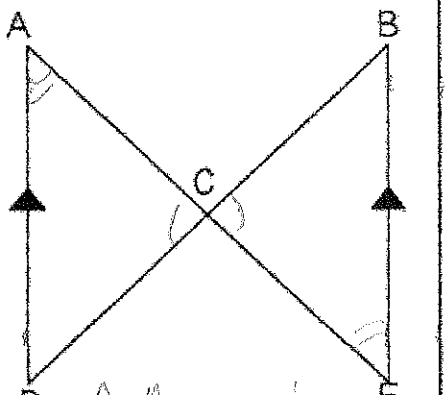
2

$\frac{16}{40} \neq \frac{16}{39}$



Not Similar

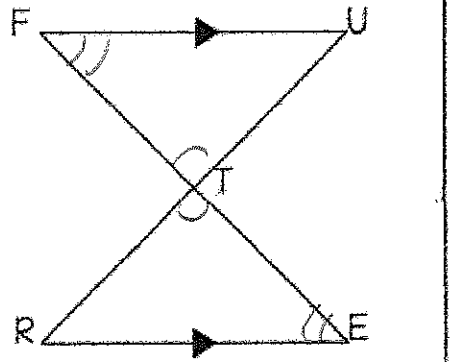
3



AA similarity

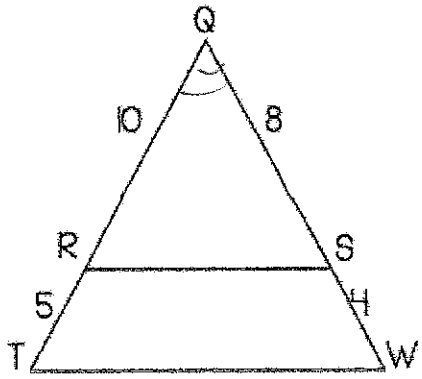
$\triangle CAD \sim \triangle CEB$

4



$\triangle UFT \sim \triangle RET$ by AA

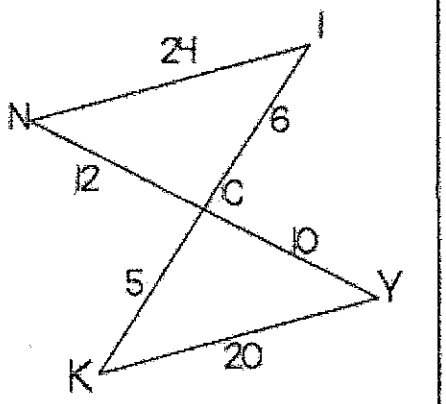
5



$\frac{10}{15} = \frac{8}{12}$

$\triangle QRS \sim \triangle QTW$ by SAS

6



$\frac{5}{6} = \frac{10}{12} = \frac{20}{24}$

$\triangle NIC \sim \triangle YKC$ by SSS