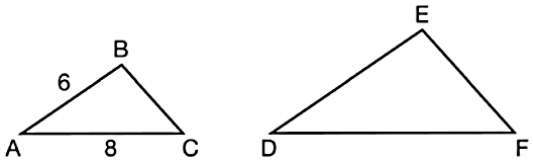
Name: _____

4.4.D2 – TRIANGLE SIMILARITY

Past due on: _____ Period: _____

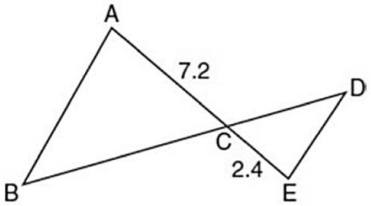
1. In the diagram below, $\triangle ABC \sim \triangle DEF$.



Which statement will justify similarity by SAS?

a) $DE = 9, DF = 12, \& \angle A \cong \angle D$
b) $DE = 8, DF = 10, \& \angle A \cong \angle D$
c) $DE = 36, DF = 64, \& \angle C \cong \angle F$
d) $DE = 15, DF = 20, \& \angle C \cong \angle F$

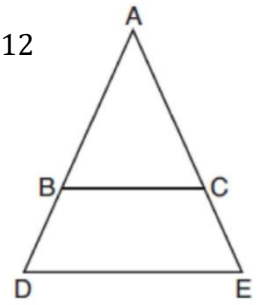
2. In the diagram below, $\triangle ABC \sim \triangle EDC$.



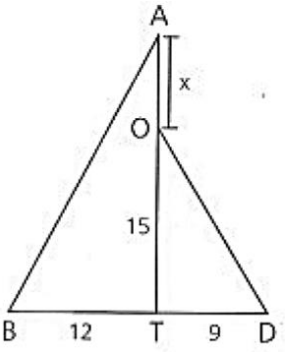
Which statement is NOT sufficient to prove similarity?

a) $\overline{AB} \parallel \overline{ED}$
b) $DE = 2.7 \ \& \ AB = 8.1$
c) $CD = 3.6 \ \& \ BC = 10.8$
d) $DE = 3, AB = 9, CD = 2.9, BC = 8.7$

3. Given: ΔABC & ΔADE are isosceles with vertex angle A
$AB = 10, BD = 5, \& \ DE = 12$
Find BC.

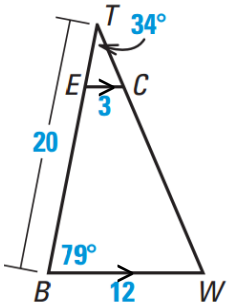


4. Given: $\Delta BAT \sim \Delta DOT$
Find x.

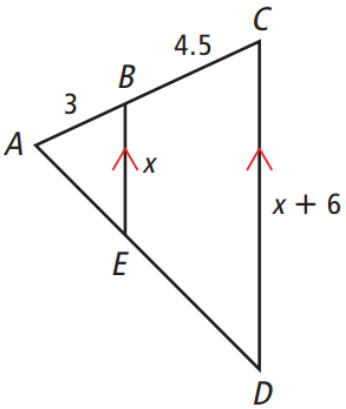


The triangles shown are similar. Set up and solve a proportion to find the indicated measurement(s).

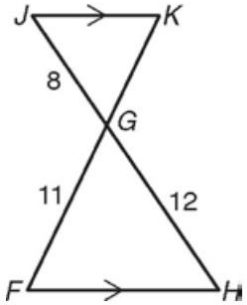
5. $\triangle BTW \sim \triangle ETC$
Find ET and BE.



6. $\triangle ABE \sim \triangle ACD$
Find x.

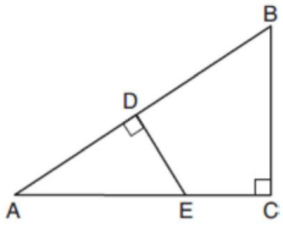


7. $\triangle JKG \sim \triangle HFG$
Find GK.

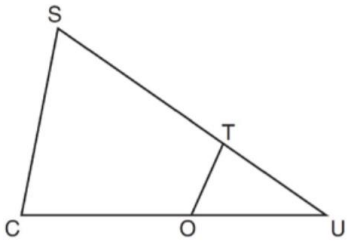


The triangles shown are similar. Complete the similarity statement. Then set up and solve a proportion to find the value of the variables.

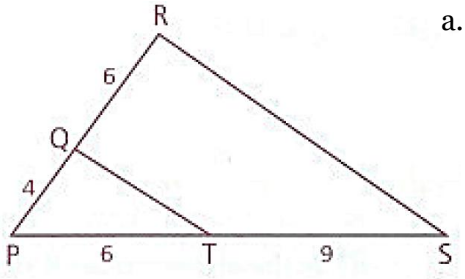
8. $\triangle ADE \sim$ _____
Given: $AB = 9, BC = 6, DE = 4$
Find AE.



9. $\triangle OUT \sim$ _____
Given: $\angle C \cong \angle OTU, TU = 4, OU = 5, OC = 7$
Find ST.



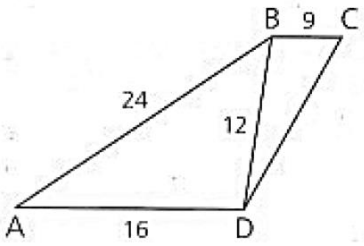
10. Given: Figure as shown.



a. Is $\Delta PQT \sim \Delta PRS$? Justify your reasoning.

b. Explain how $\overline{QT} \parallel \overline{RS}$.

11. Given: $\overline{AD} \parallel \overline{BC}$



a. Explain how $\Delta ABD \sim \Delta CDB$.

b. Find CD.