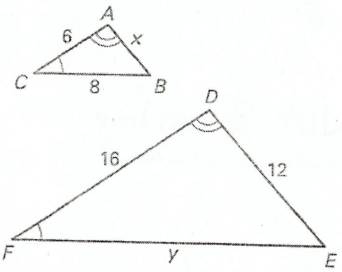
Geometry- Mrs. Tilus Name: Answer Key

Unit 6- Worksheet #4: Prove Triangles Similar by AA, SSS and SAS

Use the diagram to complete the statement.

1. $\triangle ABC \sim$ $\triangle DEF$

2. $\frac{AB}{DE} = \frac{BC}{EF} = \frac{CA}{FD}$



3. $\angle B \cong$ $\angle E$

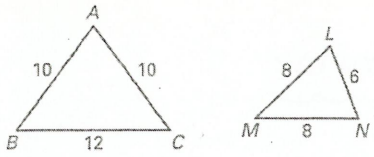
4. $\frac{x}{12} = \frac{8}{y}$

5. $x =$ $\frac{9}{2}$ units
$x = 4.5$ units

6. $y =$ $\frac{64}{3}$ units
$y \approx 21.\overline{3}$ units

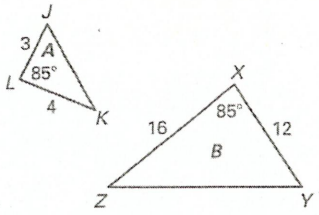
Determine whether the triangles are similar and justify your answer (with AA, SSS, SAS or why they are not). If they are similar, write a similarity statement.

7.



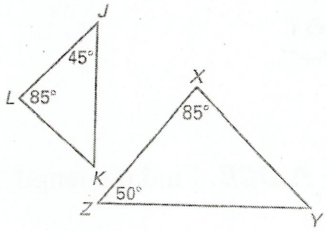
Not Similar

8.



Similar

9.



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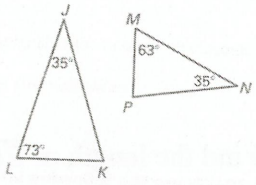
10.



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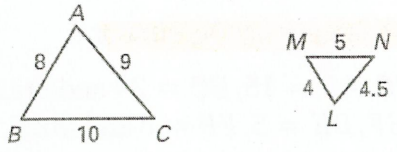

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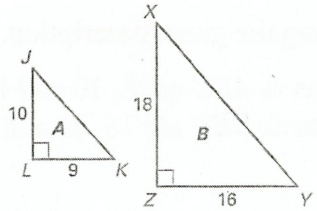

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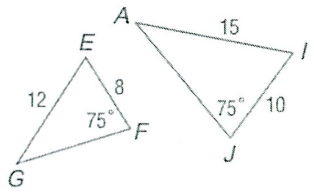
13. 

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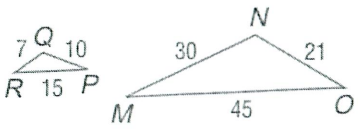
14. 

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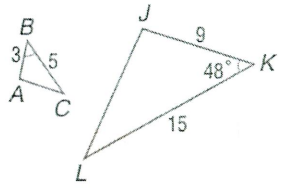
15. 

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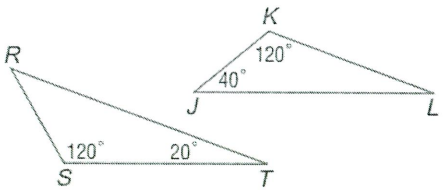
16. 

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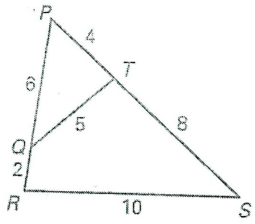
17. 

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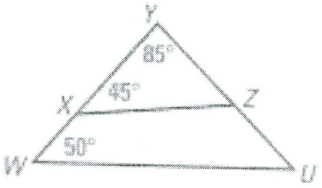
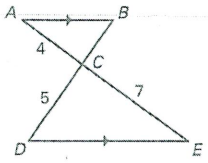
18. 

Similar

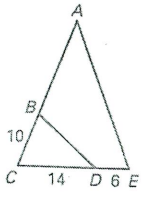
19. $\triangle ACB \sim \triangle ECD$ Find the length of $\overline{BC}$



$BC = \frac{20}{7}$ units

$BC \approx 2.86$ units

20. $\triangle ACE \sim \triangle DCB$. Find the length $\overline{AB}$



$AB = 18$ units

Sketch the triangle using the given description. Explain whether the two triangles can be similar.

21. The side lengths $\triangle ABC$ are 8, 10 and 14.
The side lengths $\triangle DEF$ are 16, 20 and 26.

Not Similar

22. In $\triangle ABC, AB = 15, BC = 24$ and $m\angle B = 38°$
In $\triangle DEF, DE = 5, EF = 8$ and $m\angle E = 38°$

Similar