Name _____ **Hour** _____

$\Delta ABC \sim \Delta DEF$. Determine whether the statement is *true* or *false*.

1. $\angle F \cong \angle A$

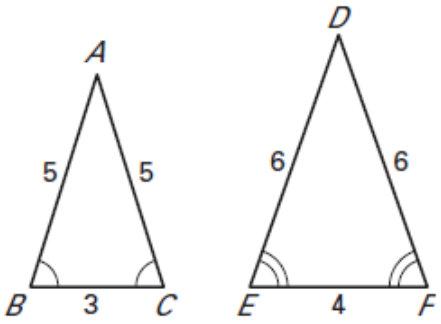
2. $\angle B \cong \angle E$

3. $\frac{AB}{DE} = \frac{CB}{FE}$

4. $\frac{FD}{CA} = \frac{EF}{BA}$

Are the polygons similar? If they are similar, write a similarity statement and state the scale factor. If they are not similar, explain why.

5.



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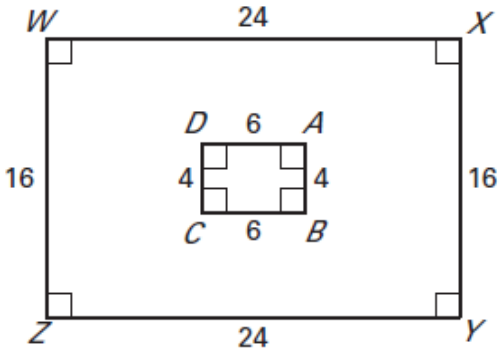

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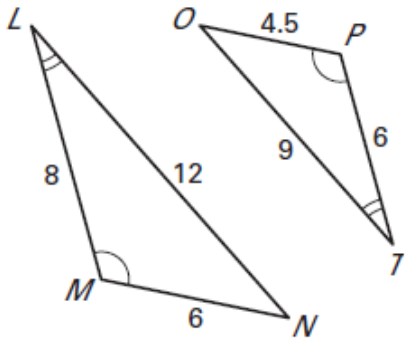

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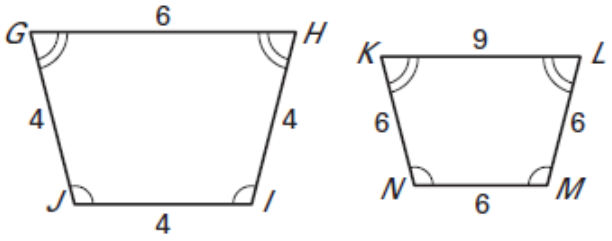

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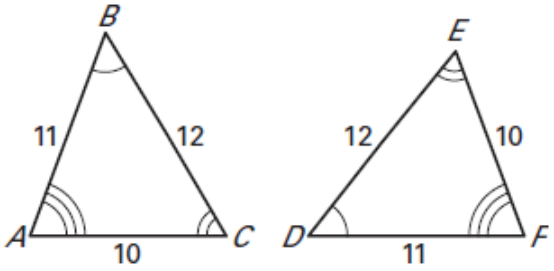
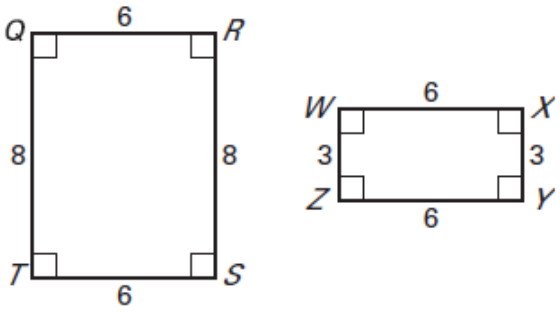


10.



Similar Polygons #1

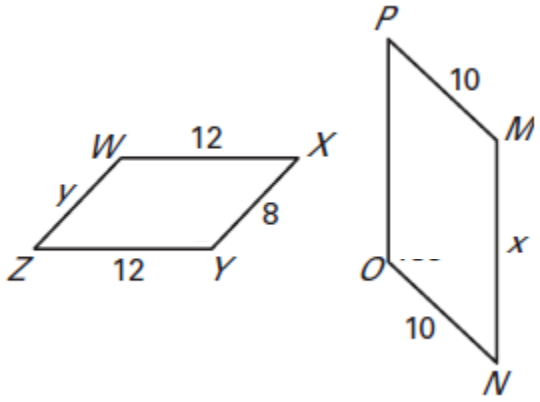
In the diagram, *WXYZ* ~ *MNOP*.

11. Find the scale factor of *WXYZ* to *MNOP*.

12. Find the value of *x* and *y*.

13. Find the perimeter of *WXYZ*.

14. Find the perimeter of *MNOP*.



15. Find the ratio of the perimeter of *MNOP* to the perimeter of *WXYZ*.

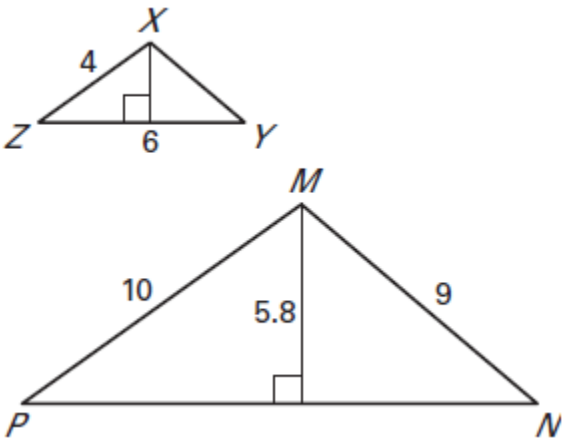
In the diagram, Δ*MNP* ~ Δ*XYZ*.

16. Find the scale factor of Δ*MNP* to Δ*XYZ*.

17. Find the length of $\overline{XY}$.

18. Find the length of $\overline{NP}$.

19. Find the length of the altitude shown in Δ*XYZ*.



Use the following information to answer questions 20-22.
The community park has a rectangular swimming pool enclosed by a similar rectangular fence for sunbathing. The pool is 30 feet wide. The fence is 50 feet wide and 100 feet long.

20. What is the scale factor of the pool to the fence?

21. What is the length of the pool?

22. What is the area reserved strictly for sunbathing?

23. The scale factor of Δ*ABC* to similar Δ*DEF* is $4:3$. The perimeter of Δ*DEF* is 24 inches. What is the perimeter of Δ*ABC*?

24. Δ*PQR* ~ Δ*TUV*. The perimeter of Δ*PQR* is 48 feet, and the length of $\overline{PR}$ is 14 feet. The length of $\overline{TV}$ is 58.8 feet. What is the perimeter of Δ*TUV*?