

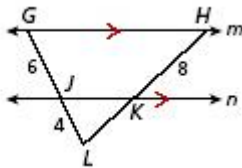
Similarity

Review 7.2 / Applying Similarity

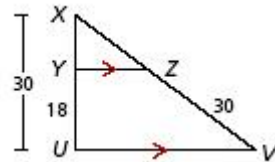
7.2.1 Applying Properties of Similar Triangles

Find the length of each segment.

1. \overline{KL}

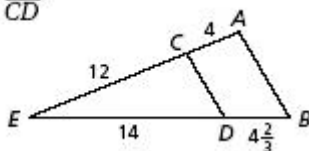


2. \overline{XZ}

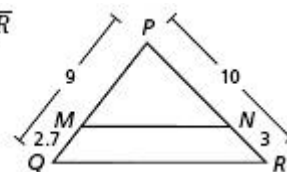


Verify that the given segments are parallel.

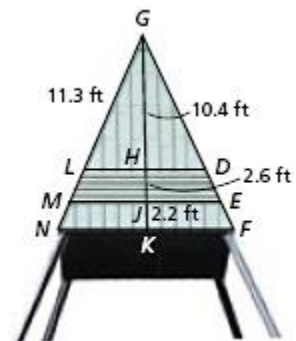
3. \overline{AB} and \overline{CD}



4. \overline{MN} and \overline{QR}

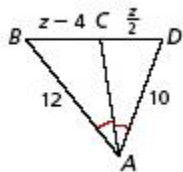


5. **Architecture** The wooden treehouse has horizontal siding that is parallel to the base. What are LM and MN to the nearest hundredth?

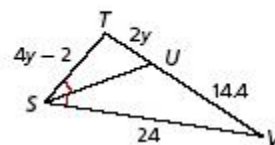


Find the length of each segment.

6. \overline{BC} and \overline{CD}



7. \overline{ST} and \overline{TU}

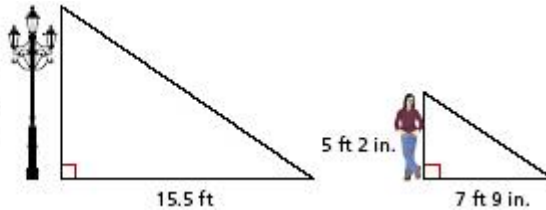


Similarity

Review 7.2 / Applying Similarity

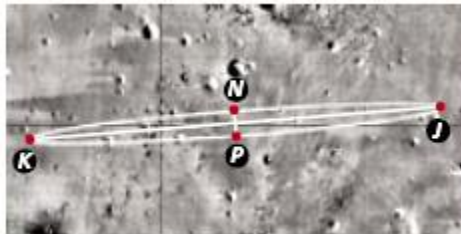
7.2.2 Using Proportional Relationships

8. **Measurement** Jenny is 5 ft 2 in. tall. To find the height of a light pole, she measured her shadow and the pole's shadow. What is the height of the pole?



Space Exploration Use the following information for Exercises 9 and 10.

This is a map of the Mars Exploration Rover *Opportunity's* predicted landing site on Mars. The scale is 1 cm : 9.4 km. What are the approximate measures of the actual length and width of the ellipse?



9. \overline{KJ}

10. \overline{NP}

Multi-Step A park at the end of a city block is a right triangle with legs 150 ft and 200 ft long. Make a scale drawing of the park using the following scales.

11. 1.5 in. : 100 ft

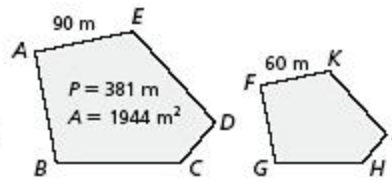
12. 1 in. : 300 ft

13. 1 in. : 150 ft

Similarity

Review 7.2 / Applying Similarity

Given that pentagon $ABCDE \sim$ pentagon $FGHJK$, find each of the following.

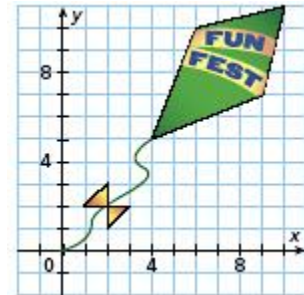


14. perimeter of pentagon $FGHJK$

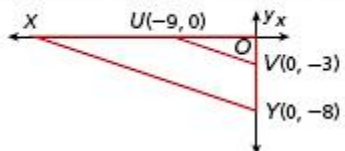
15. area of pentagon $FGHJK$

7.2.3 Dilations and Similarity in the Coordinate Plane

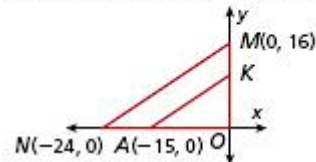
16. **Advertising** A promoter produced this design for a street festival. She now wants to make the design smaller to use on postcards. Sketch the design after a dilation with scale factor $\frac{1}{2}$.



17. Given that $\triangle UOV \sim \triangle XOY$, find the coordinates of X and the scale factor.



18. Given that $\triangle MON \sim \triangle KOL$, find the coordinates of K and the scale factor.



19. Given: $D(-1, 3)$, $E(-3, -1)$, $F(3, -1)$, $G(-4, -3)$, and $H(5, -3)$
Prove: $\triangle DEF \sim \triangle DGH$

Similarity

Review 7.2 / Applying Similarity

Page [4 of 4]

20. Given: $M(0, 10)$, $N(5, 0)$, $P(15, 15)$, $Q(10, -10)$, and $R(30, 20)$
Prove: $\triangle MNP \sim \triangle MQR$

Multi-Step Graph the image of each triangle after a dilation with the given scale factor. Then verify that the image is similar to the given triangle.

21. $J(-2, 0)$ and $K(-1, -1)$, and $L(-3, -2)$ with scale factor 3

22. $M(0, 4)$, $N(4, 2)$, and $P(2, -2)$ with scale factor $\frac{1}{2}$