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Unit 4 Similar Figures, Shadows, Scale Factor and Angles Study Guide

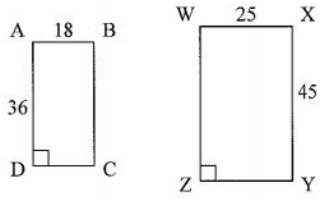
Similar Figures

Corresponding Side are _____ and _____.

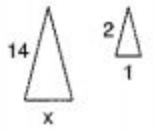
Corresponding Angles are _____.

1.

Are the following rectangles similar?

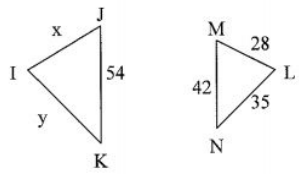


2. Find the missing side.

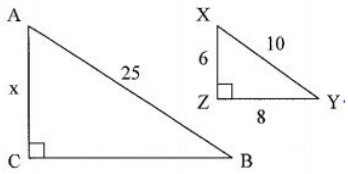


3.

Given $\Delta IJK \sim \Delta LMN$, Find the length of $\overline{IJ}$ and then the length of $\overline{IK}$.



4. Find side length AC.

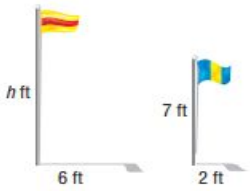


Indirect Measurement (Shadows)

$$\frac{\text{Height}}{\text{Shadow}} = \frac{\text{Height}}{\text{Shadow}} \quad \text{or} \quad \frac{\text{Height}}{\text{Height}} = \frac{\text{Shadow}}{\text{Shadow}}$$

5

FLAGS How tall is the taller flagpole?



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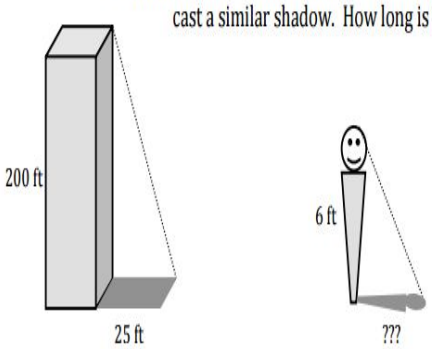
6.

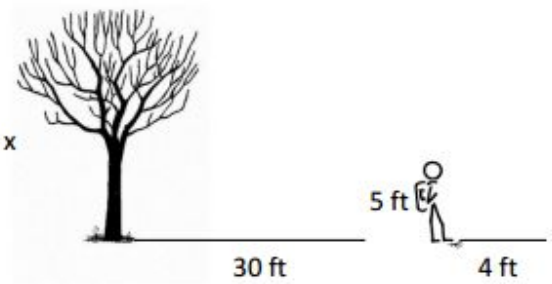
BUILDING How tall is the building?

7.

1. A building has a shadow that is 25 feet long. A person 6 feet tall cast a similar shadow. How long is the person's shadow?



8. Find the height of the tree.



Scale Factor

$$\frac{\text{New}}{\text{Original}} = \text{Scale Factor}$$

9. The scale factor for a model is 8 cm = _____ m

Model : 30.5 cm actual: 70.6 m

10. The scale of a map is 2m = 4 mi map:

12m actual: _____ mi

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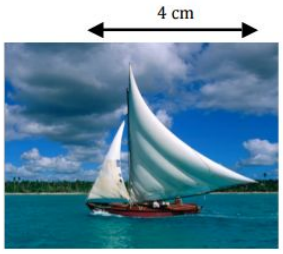
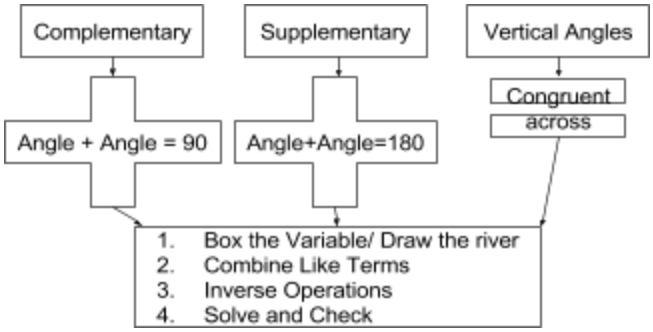
11. James made a scale drawing of his school, which has an actual height of 70 feet. A flagpole in front of the school is 25 feet tall, and James made the flagpole 10 inches tall in his drawing. What is the height of the school in James drawing?

12.

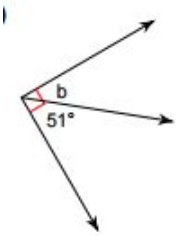
A picture of a sailboat is as shown. What is the scale factor if the real-life boat is 7500 cm long?



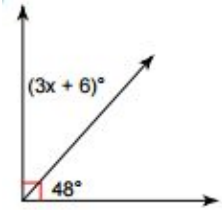
Angles



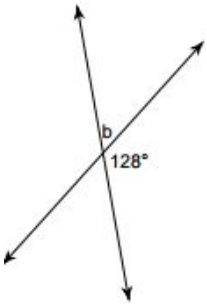
13. Find angle b.



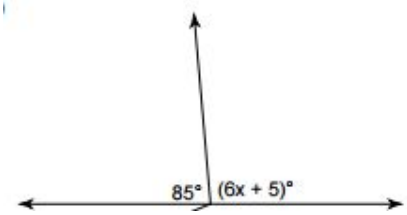
14. Find the value of x.



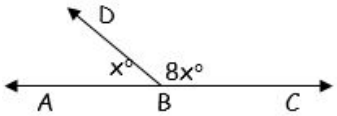
15. Find angle b.



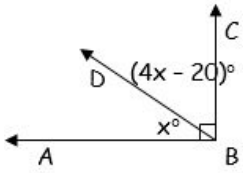
16. Find the value of x.



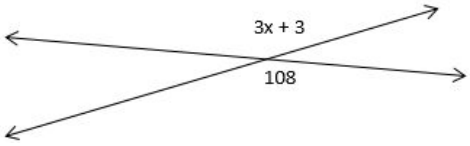
17. Find m< DBC.



18. Find m< DBC.



19. Find the value of x.



20. Find the value of x.