

Unit 6- Worksheet #2: Use Proportions to Solve Geometric Problems

Complete the statement.

1. If $\frac{6}{x} = \frac{5}{y}$, then $\frac{6}{5} = \frac{x}{y}$ (Prop. #3)

2. If $\frac{x}{12} = \frac{y}{26}$, then $\frac{x}{y} = \frac{6}{13}$ (Prop #3)

3. If $\frac{x}{4} = \frac{7}{y}$, then $\frac{x+4}{4} = \frac{7+y}{y}$ (Prop #4)

4. If $\frac{9}{2} = \frac{x}{y}$, then $\frac{11}{2} = \frac{x+y}{y}$ (Prop #4)

Decide whether the statement is true or false.

5. If $\frac{x}{y} = \frac{8}{3}$, then $\frac{y}{x} = \frac{3}{8}$ True (Prop #2)

6. If $\frac{x}{y} = \frac{8}{3}$, then $\frac{3}{x} = \frac{y}{8}$ False

7. If $\frac{x}{y} = \frac{8}{3}$, then $\frac{x}{8} = \frac{3}{y}$ False

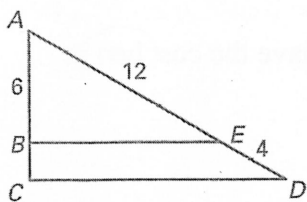
8. If $\frac{x}{y} = \frac{8}{3}$, then $\frac{x}{8} = \frac{y}{3}$ True (Prop #3)

9. If $\frac{x}{y} = \frac{8}{3}$, then $\frac{x+8}{8} = \frac{y+3}{3}$ True (Prop #4)

10. If $\frac{x}{y} = \frac{8}{3}$, then $\frac{x+2y}{y} = \frac{14}{3}$ True (Prop #4)

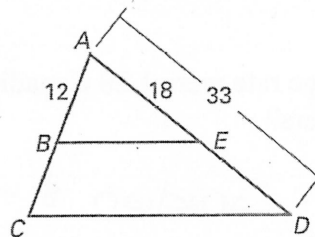
Use the diagram and the given information to find the unknown length.

11. Given: $\frac{AB}{BC} = \frac{AE}{ED}$, find BC



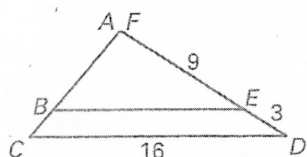
BC = 2 units

12. Given: $\frac{AB}{BC} = \frac{AE}{ED}$, find BC



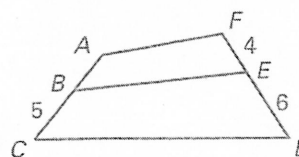
BC = 10 units

13. Given: $\frac{FD}{FE} = \frac{CD}{BE}$, find BE



BE = 12 units

14. Given: $\frac{AB}{BC} = \frac{FE}{ED}$, find AC



AC = $\frac{25}{3}$ units
 $\approx 8.\bar{3}$

15. You purchase a scale model of a train. The model states that the scale is 1 inch: 5.4 feet.

a.) If the model is 10 inches long, how long is the actual train?

$$\text{Length of Train} = 54 \text{ ft}$$

b.) The actual height of the train is 13.5 feet, how tall is the model?

$$\text{Height of Model} = 2.5 \text{ in}$$

16. On a map, two neighboring towns are 2.4 inches apart. The actual straight line distance between the two towns is 36 miles. What is the scale of the map?

$$\text{Scale} = 1 \text{ in to } 15 \text{ miles}$$

17. In November, 2005, the exchange rate of Canadian dollars to U.S. dollars was 1 to 0.85. A Canadian citizen paid \$12.28 in U.S. dollars for lunch while visiting New York City.

a.) What was the price of the lunch in Canadian dollars?

$$\text{Cost in Canadian } \$ = \$14.45$$

b.) If the exchange rate were 1.28 Canadian dollars to 1 U.S. dollar, what would have the cost been in Canadian dollars?

$$\text{Cost in Canadian } \$ = \$15.72$$