1. Two camper vans leave Arrowhead Lake at the same time, one traveling north at a speed of 10 km/h faster than the other, which is traveling south. After 3 h, the camper vans are 420 km apart. Find their speeds.

2. Two cars traveled in opposite directions from the same starting point. The rate of one car was 10 km less than the rate of the other. After 4 h the cars were 600 km apart. Find the rate of each car.

3. The McLeans drove from their house to Dayton at 75 km/h. When they returned, the traffic was heavier and they drove at 50 km/h. If it took them 1 h longer to return than to go, how long did it take them to drive home?

4. It takes a plane 1 h less to fly from San Diego to New Orleans at 600 km/h than it does to return at 450 km/h. How far apart are the cities?

5. When Sheila asked Margie to deliver camp supplies across the lake, they agreed to meet on the water. Sheila's boat can travel at 10 km/h, while Margie's boat can do 12 km/h. If the lake is 6.6 km wide and Sheila and Margie leave at the same time, how much time will it be before they meet?

Express your answers in simplest form.

6. An isosceles triangle has a base with a measure of u cm. If the triangle has a perimeter of 16 cm, what is the measure of one of its legs in terms of u?

Represent each phrase by an algebraic expression.

7. A rectangle has a width of w yards and a perimeter of 48 yards. Find the length in terms of w.

8. In triangle ABC, the measure of $\angle A$ is four times that of $\angle B$. In addition, the measure of $\angle C$ is 16° less than half the measure of $\angle A$.

9. The second angle of a triangle measures 10° more than the first angle. The third angle measures 30° less than twice the second angle. What are the measures of the three angles?

10. The horizontal sides of a rectangle are one half the length of the side of a particular square. The vertical sides of the rectangle are 4 cm more than three times the side of the square. If the perimeter of the rectangle is twice the perimeter of the square, what are the dimensions of the rectangle?

11. The annual cost for Lisa to own 3 dogs has been $612.60. Assuming the same rate, what will be the annual cost if Lisa adds 2 more dogs to her home?

12. Erik charged $150 to paint one short side of a 12 m by 20 m house. What will be the total amount charged for the other 3 sides?