

Section 1.2

Video 1

The length of a rectangle is 3 inches more than the width. If the length and width are each increased by 4 inches, the perimeter will be 5 times the length of the original rectangle. Find the dimensions of the original rectangle.

Video 2

I drove 5 hours to pick up a relative, and then drove another 6 hours to return home. On my way to pick up my relative, I drove 10 mph slower than on the way home. Find my driving speed on each leg of the trip, and the total distance traveled.

Jared is training for a cycling race. On today's training ride he biked for 1.5 hours through the foothills, and then for another 45 minutes on flat roads. His average speed was 8 mph faster on the flat roads than it was in the foothills. If the total distance covered was 60 miles, what was Jared's speed in the foothills?

At 1 pm a plane departs an airport, heading north. At 1:30 pm another plane departs the same airport, heading south, traveling 50 mph faster than the first plane. At 3 pm, the planes are 950 miles apart. What are the speeds of the northbound and southbound planes?

Video 3

Lucy took her canoe to a river that flows downstream at a rate of 2 mph. She paddled upstream for 2 hours, and then turned around and paddled downstream to return to her starting point. If the return trip took 1 hour and the total distance covered was 16 miles, what is Lucy's canoe speed in still water?

Video 4

A chemist has 20 liters of a solution that is 45% alcohol. How many liters of a 30% alcohol solution must be added to make a solution that is 35% alcohol?

A mechanic has 10 liters of a solution that is 10% antifreeze. How many liters of pure antifreeze needs to be added to that in order to make a solution that is 25% antifreeze?

Video 5

An investor invested a total of \$6000 in two stocks. The first stock earned a profit of 10%, and the second stock earned a profit of 15%. If the investor's total profit from these two stocks was \$850, how much did she invest in each stock?

An investor invested a total of \$10,000 in two stocks. The first stock earned a profit of 5%, and the second stock showed a loss of 25%. If the investor's total loss from these two stocks was \$700, how much did she invest in each stock?