Elementary Algebra Skill

Setting Up and Solving Motion Problems

1. A trip from LA to Las Vegas took 4.5 hours. How fast was the driver going if LA and Vegas are 300 miles apart?

2. Tanya walks to school at the rate of $2\frac{1}{2}$ miles per hour. How long does it take her to walk to school if her school is $3/4$ of a mile from her house?

3. A truck driver traveled for 5 hours at the rate of 78 mph. How far did the truck driver go?

4. Bert was driving at a certain rate for half an hour but increased his speed by 10 miles an hour when he realized that he was running late for an appointment. He reached his destination 15 minutes later. Find his original speed if he traveled a total distance of 50 miles.

5. Nancy and Ana are 3 miles apart and started moving towards each other at the same time. Nancy walks at the rate of 2 miles per hour while Ana jogs at the rate of 4 mph. Find how long it takes for them to meet.

6. Mr. Paddle took his boat 80 miles down a river and back. The trip downstream took 4 hours while the trip back too 8 hours. Find the speed of the boat in still water and the speed of the current.

7. A jet plane flew 2000 miles with the wind in 4 hours and flew the same distance against the wind in 5 hours. Find the speed of the jet plane in still air and the speed of the wind.

8. An airplane can fly 1500 miles with the wind in the same amount of time it can fly 1200 miles against the wind. Find the speed of the airplane if the wind speed is 60 mph.

Answers to Setting Up and Solving Motion Problems

1. $66.\overline{6}$ or $66\frac{2}{3}$ mph

2. 0.3 hr or 18 min
3. 390 miles
4. $63.\overline{3}$ or $63\frac{1}{3}$ mph

5. ½ hour
6. 15 mph for boat; 5 mph for current
7. 450 mph for airplane; 50 mph for wind
8. 540 mph