**Unit 8: Day C Word Problems Quest Review**

**DISTANCE RATE TIME**

1. Jenny traveled to the lake and back. On the trip there she traveled 80 km/h and on the return trip she went 60 km/h. How long did the trip there take if the return trip took four hours?
2. A passenger train leaves the train depot 2 hours after a freight train left the same depot. The freight train is traveling 20 mph slower than the passenger train. Find the rate of each train, if the passenger train overtakes the freight train in three hours.
3. A jet left Paris at the same time as a passenger plane. The planes flew in opposite directions. The passenger plane flew at a speed of 450 mph. After 10 hours they were 9460 mi. apart. How fast did the jet fly?
4. Two cyclists start at the same time from opposite ends of a course that is 45 miles long. One cyclist is riding at 14 mph and the second cyclist is riding at 16 mph. How long after they begin will they meet?
5. Two sisters live 240 miles apart. They agree to leave at the same time, drive toward each other, and meet somewhere along the route. One sister tends to drive carefully and obey the [speed](javascript:def('/Glossary/glossaryterm.aspx?word=Speed',%20500,%20500);) limit. Her average [rate](javascript:def('/Glossary/glossaryterm.aspx?word=Rate',%20500,%20500);) of [speed](javascript:def('/Glossary/glossaryterm.aspx?word=Speed',%20500,%20500);) is 70 mph. The other sister drives too fast, and her average [rate](javascript:def('/Glossary/glossaryterm.aspx?word=Rate',%20500,%20500);) of [speed](javascript:def('/Glossary/glossaryterm.aspx?word=Speed',%20500,%20500);) is 80 mph. How long will it take the two sisters to meet each other?
6. Two students on bicycles make an escape from school at 10:00 AM and travel in opposite directions. If the average [speed](javascript:def('/Glossary/glossaryterm.aspx?word=Speed',%20500,%20500);) of one of the students is 12 kilometers per hour and the average [speed](javascript:def('/Glossary/glossaryterm.aspx?word=Speed',%20500,%20500);) of the other student is 13 kilometers per hour, at what time will they be 75 kilometers apart?
7. A car and a bus set out at 2 p.m. from the same point, headed in the same direction. The average speed of the car is 30 mph slower than twice the speed of the bus. In two hours, the car is 20 miles ahead of the bus. Find the rate of the car.

**WORK**

1. Janice can pour a large concrete driveway in six hours. Dan can pour the same driveway in seven hours. Find how long it would take them if they worked together.
2. Working alone, Mike can sweep a porch in 15 minutes. Ethan can sweep the same porch in 11 minutes. If they worked together how long would it take them?
3. Suppose one painter can paint the entire house in twelve hours, and the second painter takes eight hours. How long would it take the two painters together to paint the house?
4. One pipe can fill a pool 2 times faster than a second pipe. When both pipes are opened, they fill the pool in five hours. How long would it take to fill the pool if only the slower pipe is used?
5. Sophia can paint a room in 7 hours. Joe can paint the same room in nine hours. How long will it take them to paint the room if they are working together?
6. Megan and Julia can finish a piece of work in 15 days. Megan can do the job herself in twenty days. If Julia wanted to do the job alone, how long would it take her?
7. There are 3 roommates living in an apartment. Johnny can paint a room in 8 hours, George can paint the room in 16 hours, and Bobby can also paint the room in 16 hours. How long would it take to do the job if all three roommates worked together?
8. An electrician takes 50 minutes to install a ceiling fan. If he works with his apprentice, it would take them 30 minutes together to install the fan. How long would it take the apprentice if he worked alone?