Essential Question: How do we solve word problems involving distance, rate and time?

Do Now:

1. What is the formula D = RT used for?

2. Solve D = RT for each of the other variables.

3. A car travels at 55mph for 4 hours. How far did the car go?

4. A 720 mile trip took a small plane 5 hours. How fast did it go?

5. A sailboat made a 37 mile trip at 4 mph. How long did it take?

6. What is the speed, in meters per second, of a paper airplane that flies 24 meters in 6 seconds?

7. It takes Tammy 45 minutes to ride her bike 5 miles. At this rate, how long will it take her to ride 8 miles?

8. A hiker walked 13 miles from 9am to noon. He walked an additional 19 miles from 1 pm to 6 pm. What is his average speed for the entire walk in miles per hour?

MOTION WORD PROBLEMS

Diagrams for Distance, Rate, Time Word Problems

A. $\longleftrightarrow$ **2 vehicles start at the same point and go in opposite directions**

Two trains start at the same time, from the same place and travel in opposite directions at 50 mph and 60 mph. How long before they are 715 miles apart?

B. $\bullet\!\!\longrightarrow\!\!\!\longleftarrow\!\!\bullet$ **2 vehicles start towards each other and eventually meet or bypass one another**

At 8 am 2 cars start towards each other from a distance of 300 miles apart. One car travels 35 mph and the other travels at 55 mph. At what time will they meet?

C.
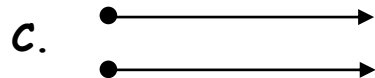
2 vehicles head in the same direction

Train A heads west at 30 mph. Two hours later, train B heads west at 45 mph following exactly the same route. How long will it take the second train to catch the first one?

D.
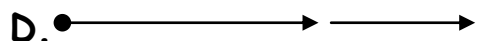
A trip is made using different modes of transportation

A person heads west in a car going 45 mph. After 2 hours the trip is continued in a plane traveling at 175 mph. The trip was a total of 200 miles. How much time was spent in the plane?

Your Turn!

1. A car travels west for 2 hours. A second car headed in the opposite direction traveling for 3 hours going 25 mph faster. When they stop, they are 400 miles apart. How fast was each car going?

2. A plane heads west at 80 mph. Two hours later another plane heads out after the first on the same route going 25 mph faster. How long did it take the second plane to catch the first?