

Distance Problems

Problems involving distances traveled will use one from of the formula relating distance, rate and time
($d = rt$, $t = d/r$, $r = d/t$) . Generally there will something in the problem that is equal in the problem (they traveled the same distance, time, or at the same rate)

Ex.

Joe and Tom each went to a party. . Joe got the in 4 hrs and Tom got the in 5 hrs. Joe averaged 15 mph more than Tom. What was the average speed of each? How far away was the party?

Since Tom was the slowest let his rate be x so Joe's rate is $x + 15$

Tom

$$d = rt$$

$$d = x(5)$$

Joe

$$d = rt$$

$$d = (x + 15)4 = 4x + 60$$

Since they each traveled the same distance we can set their distances equal.

$$5x = 4x + 60 \quad \text{solve}$$

$$x = 60 \quad \text{Tom's speed}$$

$$x + 15 = 75 \quad \text{Joe's speed}$$

Distance to the party, using Tom's equation = $60(5) = 300$ miles