

Uniform Motion

- **Introduction:**
 - **Uniform motion means that an object is moving in a straight line with constant speed.**
 - **Three important variables in uniform Motion:**
 - ✓ **Distance d that an objective in uniform motion will travel**
 - ✓ **A certain time t that an objective will travel**
 - ✓ **Speed r**
 - ✓ **Relationship for three variable: $d=rt$ (note: If you know two of three, you will get the third one by using this formula.**

- **Strategy steps for solving a Uniform Motion Problem: One of the complications of distance-rate problems is that the variable may not directly represent the unknown. Let's look at the example: Two cars, one traveling 10 mph faster than the other car, start at the same time from the same point and travel in opposite directions. In 3 h they are 300 mile apart. Find the rate of each car.**
 - **Setting a table: it look like:**

	rate	Time	Distance
First Car			
Second car			

- **For each cell above, write a numerical or variable expression. Remember try to use unknown variable as little as possible.**
- **Fill in the cell above:**

	rate	Time	Distance (Distance=Rate*time)
First Car	r	3	$3r$
Second car	$r+10$ (since one Car traveled 10 mph faster than the other)	3	$3(r+10)$

- **According to the information that the total distance traveled by the two cars is 300 mile, you could set formula as:**
 $3r + 3(r+10) = 300$
- **Solve the unknown in the formula you set, then you get: $r=45$**