**2.7.41**   Two cars leave a city on the same road, one driving 11 mph faster than the other. After 5 hours, the car traveling faster stops for lunch. After 5 hours and 45 minutes, the car traveling slower has not passed the faster car's position, but stops for lunch too. Assuming that the person in the faster car is still eating lunch, the cars are now 28 miles apart. How fast is each car driving?

The slower car is driving ☐ mph. (Type an integer or a decimal.)

The faster car is driving ☐ mph. (Type an integer or a decimal.)

stops after
5 hrs 45min
R
⟵ 28mi ⟶

A city
$R + 11$ mph
faster
stops after
5 hours
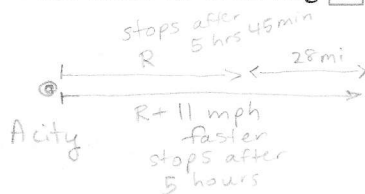
$5 \text{ hr } 45 \text{ min} = 5\frac{3}{4} \text{ hr} = 5.75 \text{ hr}$

D	=	R	·	T
5.75R		R		5.75
5(R+11)		R+11		5

Same direction → subtract distances

   faster – slower = 28 miles apart

$5(R+11) - 5.75R = 28$

$5R + 55 - 5.75R = 28$

$-.75R + 55 = 28$
$ - 55 \quad -55$

$\dfrac{-.75R}{-.75} = \dfrac{-27}{-.75}$

$\boxed{R = 36 \text{ mph} \quad \text{slower}}$

$\boxed{R + 11 = 47 \text{ mph} \quad \text{faster}}$