Vivian and Noelle both leave the park at the same time, but in opposite directions. If Noelle travels 5 mph faster than Vivian and after 8 hours, they are 136 miles apart, how fast in mile per hour is each traveling?

If Noelle travels 5 mph faster than Vivian then after 8 hours Noelle must have traveled (5 miles \* 8 hours = 40 miles) 40 miles more than Vivian

Distance formula = Distance = speed x time

So the distance travelled by Vivian = x mph x 8 hour = 8x miles

And the distance travelled by Nolle (x+5) mph x 8 hour = (8x + 40) miles

Total Distance 136 miles

Vivian Distance + Noelle Distance = 136 miles

8x miles + 8x miles + 40 miles = 136 miles

16x miles = 136 – 40 miles

16x miles = 96 miles

x = 96/16

x = 6 mph

Put the x to the formula

Vivian’s speed = x mph

**Vivian’s speed = 6 mph**

Noelle’s speed = x+5 mph

**Noelle’s speed = 6 + 5 = 11 mph**

**So Vivian traveling at 6 mph and Noelle traveling at 11 mph**