

November 9th

The distance between two towns A and B is 360 miles.
A cyclist leaves A for B at an average speed of 12mph
Another cyclist leaves B for A at an average speed of 20mph.

Where and when will the two cyclists meet?

At time t :

Cyclist 1 is $12t$ miles from A

Cyclist 2 is $360-20t$ miles from A

$$\therefore 12t = 360 - 20t$$

$$\therefore 32t = 360$$

$$\therefore t = 11.25 \text{ hours}$$

They meet after 11 $\frac{1}{4}$ hours, 135 miles from A