

Answer on Question 49365, Math, Algebra

Train A leaves Toronto headed toward Montreal at the same time that Train B leaves Montreal headed for Toronto, traveling on parallel tracks. Train A travels at a constant speed of 125 km per hour. Train B travels at a constant speed of 115 km per hour. The two stations are 540 kilometers apart, and the trains do not stop between the two cities. How long after they leave their respective stations do the trains meet?

Solution

Their relative speed is

$$v = 115 + 125 = 240 \text{ km/h}$$

Time, when they meet is

$$t = \frac{s}{v} = \frac{540}{240} = 2.25 \text{ h} = 2 \text{ hours } 15 \text{ min}$$