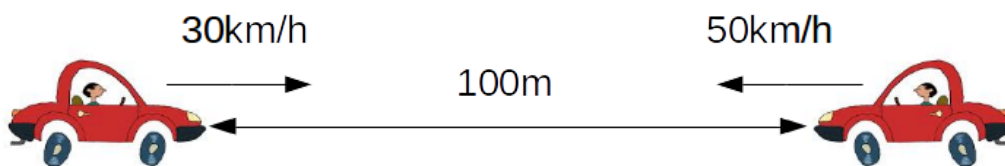


Cars on a Collision Course

When two cars 100m approach each other head on along a straight line, each travelling at a different speed, how far does each train move before the collision?



The faster each car travels, the further it will travel before the collision. In fact each car will travel a distance proportional to its speed. Because the total distance travelled by both cars is 100m, we only have to divide 100m in the ratio of the speed of the cars, 30:50.

Divide 100m in the ratio

30 : 50.

$$\frac{100}{30 + 50} \times 30 : \frac{100}{30 + 50} \times 50$$

37.5 : 62.5

The car on the left travels 37.5m and the car on the right travels 62.5m.