7. 2 trains one started from Howrah & other from Delhi at the same time to ~~their~~ opp. direction. After their crossing, they reach dest. in 4hrs & in 9 hrs. respectively. What is the ratio of velocity of 2 train

$$\frac{x}{y} = \sqrt{\frac{9}{4}} = \frac{3}{2} = 3:2.$$

8. 2 train one started from Howrah & other from Delhi at the same time to opp. direction with a speed of 60k/hr & 40 km/hr respectively. If the distance between Howrah & Delhi is 1000 km. Then when & where they will meet?

$$t = \frac{1000}{60+40} = 10 \text{ km/h}.$$

9. 2 trains one started from Howrah other from Delhi to their opp. direction with speed of 40 km/h. & 60 km/h. Second train started 4 hr after 1st train if the dist. between Howrah & Delhi is 1000 km, then when and where they will meet.

(Rule - 11) $t = \frac{1000 + 4\times60}{60+40} = \frac{1240}{100} = 12.4 \text{ km/h}.$

Section - B (Conceptional Problem):

1. At the same time a dog jumps 5 steps. But a hare 9 steps. Dist. cover by dog in 3 steps is equal the distance cover by the hare in 7 steps are equal. What is speed ratio of dog & hare?

– General way :-

dog	hare
in 3 steps cover x dist	in 7 steps cover x dist.
" 1 " " $\frac{x}{3}$ "	in 1 " " $\frac{x}{7}$ "
" 5 " " $\frac{x}{3}\times5$ "	" 9 " " $\frac{x}{7}\times9$.