

The diagrams illustrate the situation. Therefore, the equations can be derived as:

$$\frac{2}{3}p + \frac{2}{3}j = 60$$

$$2p + 2j = 180$$

$$p + j = 90 \dots\dots (1)$$

$$6p - 6j = 60$$

$$p - j = 10 \dots\dots (2)$$

Adding (1) and (2)

$$2p = 100 \Rightarrow p = 50$$

Substituting  $p = 50$  into (1),

$$50 + j = 90 \Rightarrow j = 40$$

$\therefore$  Peter's speed is 50km/h while Jordan's speed is 40km/h. (ans)

