FORM 2
CHAPTER 9

Summative Practice

Section A

1 $30 = \frac{240}{t}$

$t = \frac{240}{30}$

$= 8$ hours

Answer: **B**

2 Average speed $= \frac{180 + 180}{30 + 10 + 50} = \frac{360}{90} = 4$ m/s

Answer: **B**

3 30 minutes $= \frac{1}{2}$ hour

Acceleration $= \frac{30 - 55}{\frac{1}{2}}$

$= -50$ km/h^2

Answer: **A**

4 1 hour 20 minutes $= 1 + \frac{20}{60} = 1\frac{1}{3}$ hours

Acceleration $= \frac{96 - 60}{\frac{4}{3}}$

$= 27$ km/h^2

Answer: **C**

5 2 minutes 30 seconds $= 120 + 30 = 150$ seconds

$40 = \frac{\text{Distance}}{150}$

Distance $= 40 \times 150$

$= 6\,000$ m $= 6$ km

Answer: **C**

6 6 km $= 6\,000$ m

$\frac{6\,000}{t} = 2.5$

$t = \frac{6\,000}{2.5}$

$= 2\,400$ seconds

$= 40$ minutes

Ending time $= 6.30$ a.m. $+ 40$ minutes

$= 7.10$ a.m.

Answer: **D**

7 $\frac{126 \text{ km}}{1 \text{ h}} = \frac{126\,000 \text{ m}}{3\,600 \text{ seconds}} = 35$ m/s

Answer: **B**

8 Uniform speed = Constant speed = Distance travelled changes constantly in equal interval of time.

Answer: **C**

9 Acceleration $= \frac{0 - x}{45} = -3$

$-x = -135$

$x = 135$ m/s

Answer: **D**

10 Distance travelled in uniform speed $= 60(3)$

$= 180$ km

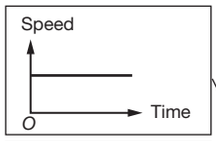
Average speed $= \frac{380 + 180}{3 + 5}$

$= \frac{560}{8} = 70$ km/h

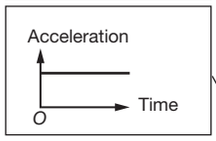
Answer: **B**

Section B

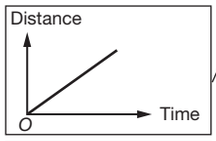
1 (a)



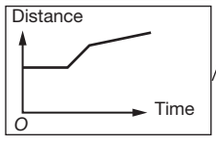
(b)



(c)



(d)



Uniform speed

Non-uniform speed

2 (a) (i) False

(ii) True

(b) (i) Speed $= \frac{100}{2} = 50$ km/h

(ii) No. The bus driver did not exceed the maximum speed of 90 km/h.

Section C

1 (a) (i) 2 hours15 minutes $= 2 + \frac{15}{60}$

$= \frac{9}{4}$ hours

Speed from point B to point $C = \frac{25}{\frac{9}{4}}$

$= 11\frac{1}{9}$ km/h

(ii) Average speed $= \frac{42}{1 + \frac{9}{4} + \frac{1}{2}}$

$= 11.2$ km/h

(b) (i) Total distance $= 50 \times \left(\frac{1}{2} + \frac{1}{3}\right)$

$= 50 \times \frac{5}{6}$

$= 41\frac{2}{3}$ km

(ii) Distance from A to $B = 45 \times \frac{1}{2}$

$= 22.5$ km

Distance from B to $C = 41\frac{2}{3} - 22.5$

$= 19\frac{1}{6}$ km

Speed from B to $C = 19\frac{1}{6} \div \frac{1}{3}$

$= 57.5$ km/h

(iii) Acceleration $= \frac{60 - u}{\frac{20}{60}} = 15$

$60 - u = 5$

$u = 55$ km/h