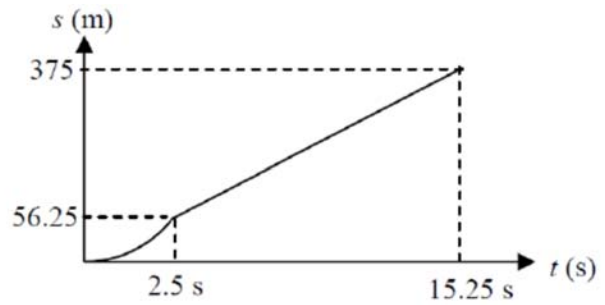
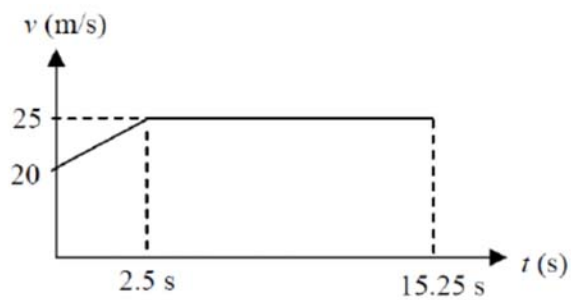


1)

a)  $a = -0.4167 \text{ m/s}^2$

b)  $v = 5 \text{ m/s} = 18 \text{ km/h}$

2)



3)

a)  $d = 2.40 \text{ m}$

b)  $t_{BC} = 0.559 \text{ s}$ ,  $t_D = 2.06 \text{ s}$

4)

$v_A = 19.4 \text{ m/s}$ ,  $t = 4.54 \text{ s}$

5)  $h_C = 1079.1 \text{ m}$ ,  $R = 2982.4 \text{ m}$

6)

a)  $v_B = 2 \text{ m/s}$  ( $\uparrow$ ),

b)  $v_D = 2 \text{ m/s}$  ( $\uparrow$ ),

c)  $v_{C/D} = -8 \text{ m/s}$  ( $\downarrow$ )

7)

$v_C = 2.21 \text{ m/s}$  ( $\uparrow$ ),  $t = 5.43 \text{ s}$

8)

$v_{A/B} = 120 \text{ km/h}$ ,  $a_{A/B} = 4000 \text{ km/h}^2$

9)

$v_{A/B} = 3.6 \text{ m/s}^2$

10)

$$v_w = 15.79 \text{ km/h} \quad \swarrow 26.0^\circ \quad \blacktriangleleft$$

11)

a)  $a = 10.20 \text{ mm/s}^2$

b)  $t = 25.2 \text{ s}$