

END OF UNIT 3 QUESTIONS

1 a 3375 b 2×10^5 c 2 d 2

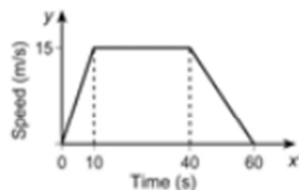
2 a (i) 3 (ii) 12

b (i) 24 (ii) 144

3 a (i) $x = 6$ (ii) $x = 12$

b (i) $x(x + 7)$ (ii) $xy(x + 2y + 3)$

4 a



b (i) 675m (ii) 1.5 m/s^2
 (iii) 0.75 m/s^2 (iv) 40.5 km/h

5 177 cm

6 a 4.68 b 67.4 c 322 d 75.2

7 a Gain of £275 b 29.9% c £2.36 approx

8 a (i) $x = 5.5$ (ii) $x = \frac{7}{9}$

b (i) $5x^2y^2(2x - 3y)$ (ii) $4xyz(3yz^2 + 4x^2y - 6)$

c $x = 2$; 4 by 4 and 2 by 8

9 a 3358 ft b 3.7%

10 a 9.8 m/s b 35.4 kph c 11.2 m/s d 2.2 m/s^2

11 a $x = 2, y = 5$ b $x = 3, y = -1$

12 a 4.91 m b 0.382 m

13 a 8.7 cm b 3.7 cm c 5 cm d 12.5 cm^2

14 a 6.24 km b (i) 51.3° (ii) 321.3° (iii) 141.3°

15 a (i) 4880 km (ii) 4090 km (iii) 38 200 km (iv) 123°

b Tangent is perpendicular to radius. Therefore the smallest possible value of angle ODS is 90° , since a smaller value would mean that the signal would pass back into Earth before reaching Delhi.

c 77 000 km