Preparation for Assessment: Unit 3

1 85 000 km

2 663 mm, 98.9°, 55.9°

3 173.5 cm

4 247.2°, 9.3 km

5
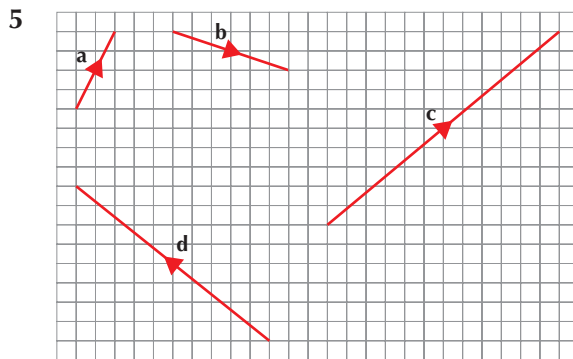
6 a A(0, 0, 0), B(2, 0, 0), C(2, 4, 0),
D(0, 4, 0) E(0, 0, 6), F(2, 0, 6),
G(2, 4, 6), H(0, 4, 6)

   b Centre (ABCD) (1, 2, 0)
Centre (EFGH) (1, 2, 6)
Centre (ABFE) (1, 0, 3)
Centre (CDGH) (1, 4, 3)
Centre (ADHE) (0, 2, 3)
Centre (BCGF) (2, 2, 3)

7 $\begin{pmatrix} 7 \\ -1 \end{pmatrix}$

8 $\begin{pmatrix} 6 \\ 1 \\ -1 \end{pmatrix}$

9 a $|\mathbf{a}| = 10$, $|\mathbf{b}| = 13.6$

   b $\begin{pmatrix} 10 \\ -5 \end{pmatrix}$

   c 11.2

   d 45.6

10 421.7

11 16 250

12 £905

13 13.7 kg

14 $\frac{119}{120}$

15 $10\frac{9}{16}$
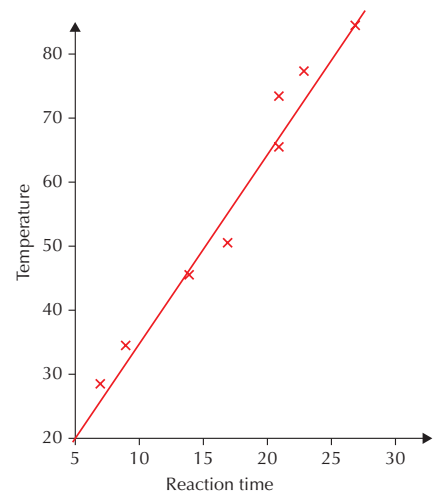
16 $2\frac{83}{92}$

17 a S1:(27, IQR = 24.5) S4:(33, IQR = 25.75)

   b S4 spends more time on homework,
but has more variability

18 a Team A; mean = 15.3, sd = 1.1. Team B;
mean = 15.6, sd = 3.8

   b B takes longer on average and is not
as consistant as A

19 a

   b Positive

   c see **a**

   d Temperature = 3 × Reaction time + 5

   e 39.67