

- 1 Write 45% as a fraction in its simplest form.

$$45\% = \frac{45}{100} = \frac{9}{20}$$

$$= \frac{45 \div 5}{100 \div 5}$$

Answer $\frac{9}{20}$ [1]

- 2 One January day in Munich, the temperature at noon was 3°C .
At midnight the temperature was -8°C .

Write down the difference between these two temperatures.

$$3 - (-8) = 3 + 8$$

$$= 11$$

Answer 11 $^{\circ}\text{C}$ [1]

- 3 (a) Calculate $\sqrt{5.7} - 1.03^2$.

Write down all the numbers displayed on your calculator.

Answer(a) 1.326567277262... [1]

- (b) Write your answer to part (a) correct to 3 decimal places.

Answer(b) 1.327 [1]

- 4 Pedro and Eva do their homework.
Pedro takes 84 minutes to do his homework.

The ratio Pedro's time : Eva's time = 7 : 6.

Work out the number of minutes Eva takes to do her homework.

$$\frac{6}{7} \times 84 \text{ min} = 72 \text{ min}$$

Answer 72 min [2]

- 5 Write each of the following as a single vector.

(a) $\begin{pmatrix} 6 \\ 1 \end{pmatrix} + \begin{pmatrix} -4 \\ 2 \end{pmatrix} = \begin{pmatrix} 6-4 \\ 1+2 \end{pmatrix} = \begin{pmatrix} 2 \\ 3 \end{pmatrix}$

Answer(a) $\begin{pmatrix} 2 \\ 3 \end{pmatrix}$ [1]

(b) $4 \begin{pmatrix} 2 \\ -3 \end{pmatrix} = \begin{pmatrix} 4 \times 2 \\ 4 \times (-3) \end{pmatrix} = \begin{pmatrix} 8 \\ -12 \end{pmatrix}$

Answer(b) $\begin{pmatrix} 8 \\ -12 \end{pmatrix}$ [1]