

1 The population of a village is 2250.

- (a) 32% of the population are children.
Calculate the number of children in the village.

$$\frac{32}{100} \times 2250 = 720$$

Answer(a) 720 [2]

(b) 360 people in the village are over the age of 60.

- (i) For these 360 people, the ratio of men to women is 2 : 7.
Calculate how many men are over the age of 60.

$$\frac{2}{2+7} \times 360 = \frac{2}{9} \times 360$$

$$= 80$$

Answer(b)(i) 80 [2]

(ii) Write 360 as a fraction of 2250 in its lowest terms.

$$\frac{360}{2250} = \frac{360 \div 90}{2250 \div 90}$$

$$= \frac{4}{25}$$

Answer(b)(ii) $\frac{4}{25}$ [2]

- (c) The population of 2250 is expected to increase by 18% next year.
Calculate the expected population next year.

$$\frac{18}{100} \times 2250 = 405$$

$$2250 + 405 = 2655$$

Answer(c) 2655 [3]

- (d) Write the number 2250 in standard form.

$$2250 = 2.25 \times 10^3$$

Answer(d) 2.25×10^3 [1]

- (e) Another village has a population of 1770, correct to the nearest ten.
Write down the lower bound for the population of this village.

lower bound upper bound

$$1765 \leq 1770 < 1775$$

Answer(e) 1765 [1]