



1 Simplify the expression.

$$p + p + p + p$$

Answer ..... [1]

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2 Calculate  $\frac{\sqrt[3]{16}}{1.3^2}$ .

Answer ..... [1]

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3 Write down in figures

(a) three hundred and forty thousand,

Answer(a) ..... [1]

(b) the number that is one less than one million.

Answer(b) ..... [1]

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4 Write the following numbers in order, starting with the smallest.

$\frac{5}{11}$

$\sqrt{0.2}$

45.4%

$\frac{9}{20}$

Answer ..... < ..... < ..... < ..... [2]

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- 5 (a) The temperature on Monday was  $-6^{\circ}\text{C}$ .  
On Tuesday the temperature was 3 degrees lower.

Write down the temperature on Tuesday.

Answer(a) .....  $^{\circ}\text{C}$  [1]

- (b) The temperature on Saturday was  $-2^{\circ}\text{C}$ .  
The temperature on Sunday was  $8^{\circ}\text{C}$ .

Write down the difference in these two temperatures.

Answer(b) .....  $^{\circ}\text{C}$  [1]

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- 6 (a) Write 569 000 correct to 2 significant figures.

Answer(a) ..... [1]

- (b) Write 569 000 in standard form.

Answer(b) ..... [1]

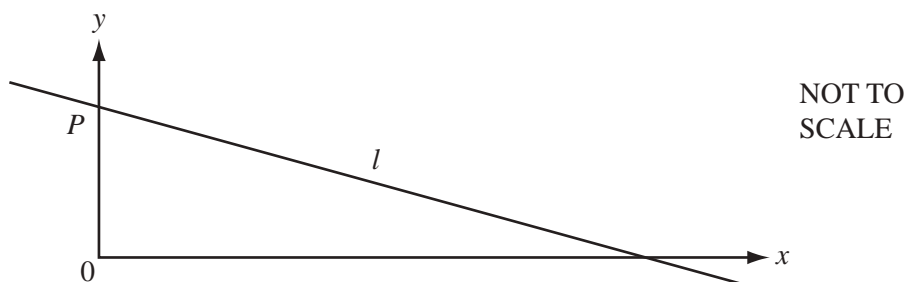
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- 7 Find three numbers which have a mode of 4 and a mean of 6.

Answer ..... , ..... , ..... [2]

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8



The equation of the line  $l$  in the diagram is  $y = 5 - x$ .

(a) The line cuts the  $y$ -axis at  $P$ .

Write down the co-ordinates of  $P$ .

Answer(a) (....., .....) [1]

(b) Write down the gradient of the line  $l$ .

Answer(b) ..... [1]

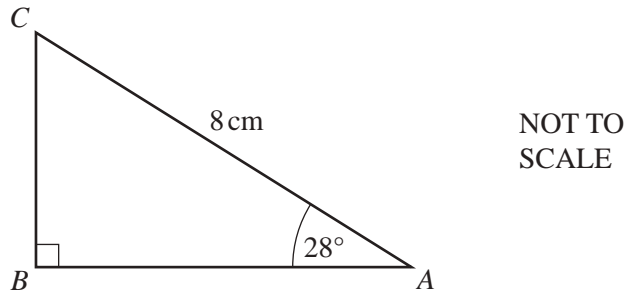
9 Solve the simultaneous equations.

$$\begin{aligned} 2x - y &= 7 \\ 3x + y &= 3 \end{aligned}$$

Answer  $x =$  .....

$y =$  ..... [2]

10



Calculate the length of  $AB$ .

*Answer*  $AB = \dots\dots\dots$  cm [2]

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11 The height of Mount Everest is 8800 m, correct to the nearest hundred metres.

Complete the statement about the height,  $h$  metres, of Mount Everest.

*Answer*  $\dots\dots\dots \leq h < \dots\dots\dots$  [2]

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12 Colin is travelling from Sydney, Australia, to Auckland, New Zealand.

- (a) Colin's bus leaves for Sydney airport at 12 38.  
The bus arrives at the airport at 13 24.

How many minutes does the bus journey take?

*Answer(a)*  $\dots\dots\dots$  min [1]

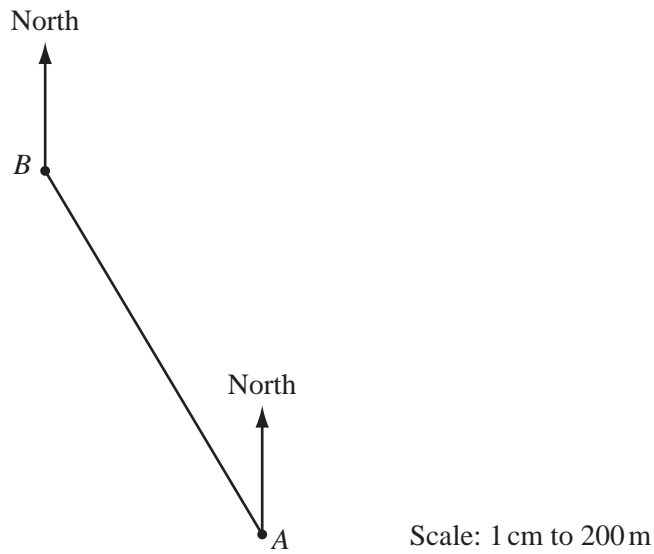
- (b) Colin's flight from Sydney to Auckland leaves at 14 45 local time and takes 3 hours 20 minutes.  
The time in Auckland is 2 hours ahead of the time in Sydney.

What is the local time in Auckland when his flight arrives?

*Answer(b)*  $\dots\dots\dots$  [2]

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- 13 (a) The scale drawing shows the positions of two villages, *A* and *B*.  
The scale is 1 centimetre represents 200 metres.



- (i) Measure the bearing of *B* from *A*.

*Answer(a)(i)* ..... [1]

- (ii) Work out the actual distance from *A* to *B*.

*Answer(a)(ii)* ..... m [1]

- (b) The post box in Village *A* has a volume of  $84\,000\text{ cm}^3$ .  
The post box in Village *B* has a volume of  $0.1\text{ m}^3$ .

Which post box has the greater volume?  
Show how you decide.

*Answer(b)* Post box in Village ..... [1]

**14**  $V = \frac{1}{3}Ah$

(a) Find  $V$  when  $A = 15$  and  $h = 7$ .

*Answer(a)*  $V = \dots\dots\dots$  [1]

(b) Make  $h$  the subject of the formula.

*Answer(b)*  $h = \dots\dots\dots$  [2]

---

**15** At the beginning of July, Kim had a mass of 63 kg.  
At the end of July, his mass was 61 kg.

Calculate the percentage loss in Kim's mass.

*Answer*  $\dots\dots\dots$  % [3]

---

**16** Without using your calculator, work out  $\frac{5}{6} - \left(\frac{1}{2} \times 1\frac{1}{2}\right)$ .

Write down all the steps of your working.

*Answer*  $\dots\dots\dots$  [3]

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17 A plane is travelling at 180 metres per second.

How many minutes will it take the plane to travel 800 km?  
Give your answer correct to the nearest minute.

*Answer* ..... min [4]

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18 (a) The probability that FC Victoria wins the cup is 0.18 .

Work out the probability that they do **not** win the cup.

*Answer(a)* ..... [1]

(b) After training, the shirts are washed.

There are 5 red, 3 blue and 6 green shirts.

One shirt is taken from the washing machine at random.

Find the probability that it is

(i) red,

*Answer(b)(i)* ..... [1]

(ii) blue or green,

*Answer(b)(ii)* ..... [1]

(iii) white.

*Answer(b)(iii)* ..... [1]

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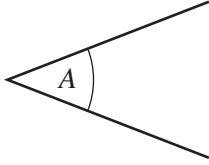


19

similar	acute	line	perpendicular	radius
reflex	obtuse	parallel	congruent	isosceles

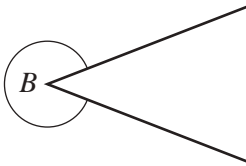
Choose the correct word from this box to complete each of these statements.

(a)



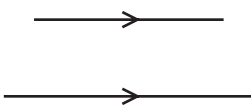
Angle A is ..... [1]

(b)



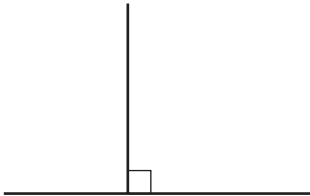
Angle B is ..... [1]

(c)



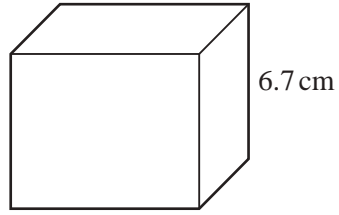
These lines are ..... [1]

(d)



These lines are ..... [1]

20

NOT TO  
SCALE

Each edge of this cube is 6.7 cm long.

Work out

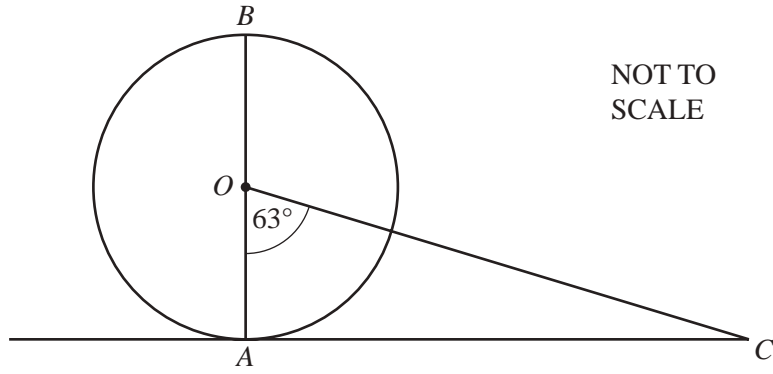
(a) the volume,

*Answer(a)* .....  $\text{cm}^3$  [2]

(b) the surface area.

*Answer(b)* .....  $\text{cm}^2$  [2]

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The diagram shows a circle, centre  $O$  with diameter  $AB = 15$  cm.  
 $AC$  is a tangent to the circle at  $A$  and angle  $AOC = 63^\circ$ .

(a) Calculate the area of the circle.

Answer(a) ..... cm<sup>2</sup> [2]

(b) (i) Work out the size of angle  $ACO$ .

Answer(b)(i) Angle  $ACO =$  ..... [2]

(ii) Give one geometrical reason for your answer to **part (b)(i)**.

Answer(b)(ii) .....  
 ..... [1]

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