EXAMINATIONS COUNCIL OF LESOTHO
Lesotho General Certificate of Secondary Education

CANDIDATE NAME

CENTRE NUMBER | | | | | | CANDIDATE NUMBER | | | | | | | | |

MATHEMATICS **0178/02**

Paper 2 (Extended) **October/November 2015**

1 hour 30 minutes

Candidates answer on the Question Paper.

Additional Materials: Geometrical Instruments
Tracing Paper (optional)

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The number of marks is given in brackets [ ] at the end of each question or part question.
The total of the marks for this paper is 70.

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(a) the nearest 10,

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

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From the list of numbers write

(a) a prime number,

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(d) the square root of 625.

Answer (d) ..... [1]

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3 Work out $\frac{3}{4} - \frac{1}{2} + \frac{1}{6}$.

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4 At noon in Oxbow the temperature was 3 °C.
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$$5x + 4y = 7$$
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Answer $x =$ .....

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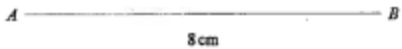

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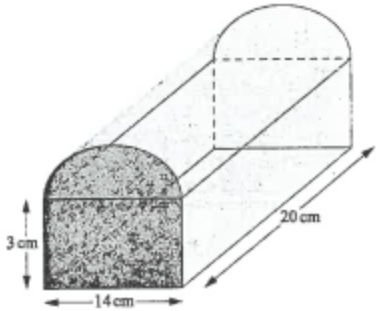

NOT TO SCALE

Work out, leaving your answer in terms of π,

(a) the area of the cross-section,

Answer (a) ..... cm^2 [3]

(b) the volume of the prism.

Answer (b) ..... cm^3 [1]

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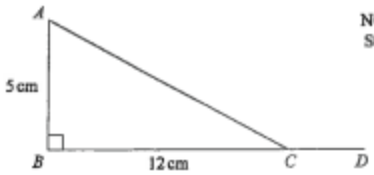

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$AB = 5$ cm and $BC = 12$ cm.

(a) Work out the length AC.

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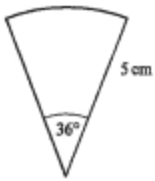

NOT TO SCALE

Calculate the perimeter.
Use $\pi = 3.142$.

Answer ..... cm [3]

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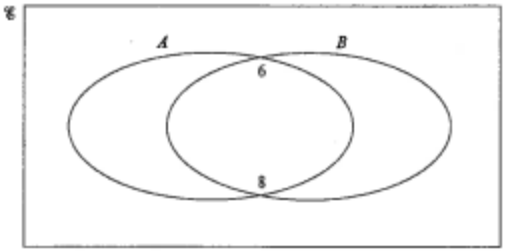
10 $\mathscr{E} = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15\}$

$A = \{\text{multiples of two}\}$
$B = \{\text{composite numbers}\}$

(a) Complete the Venn diagram to show this information.



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(b) **(i)** A number is chosen at random from $\mathscr{E}$.

Find the probability that it is a member of $A \cap B$.

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

(ii) A composite number is chosen at random.

Find the probability that it is a member of $A \cap B$.

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11 Evaluate the following.

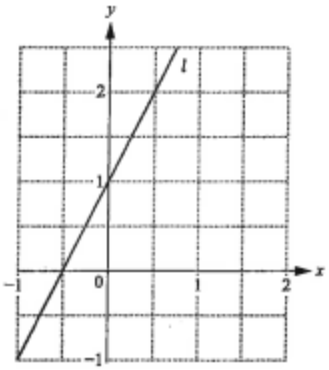
(a) $4^0 + 4^{\frac{1}{2}} + 4^2$

Answer (a) ..... [2]

(b) $27^{-\frac{2}{3}}$

Answer (b) ..... [2]

12



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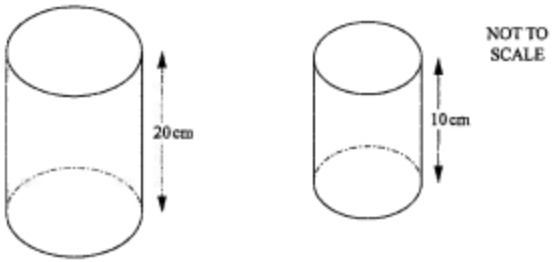
Their heights are as shown.



(a) If the diameter of the smaller can is 6 cm, calculate the diameter of the larger can.

Answer (a) ..... cm [2]

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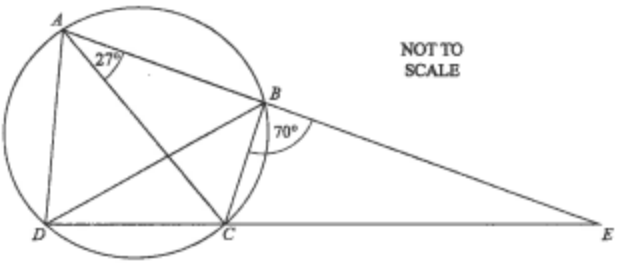

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Angle $BAC = 27°$ and angle $EBC = 70°$.
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$$-3 < 2n - 1 \leqslant 5$$

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(a) Find the matrix **AC**.

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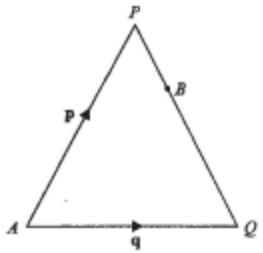

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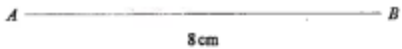

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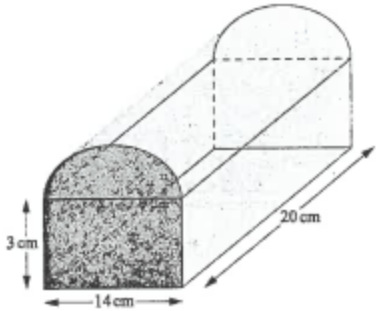

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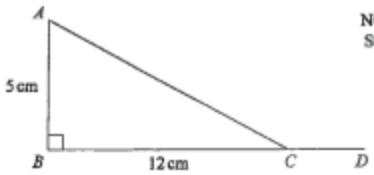

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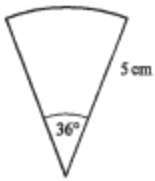

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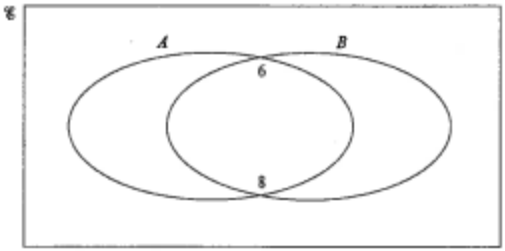

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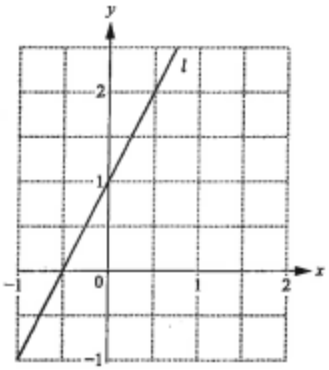

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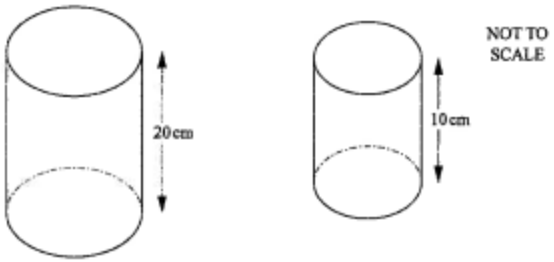

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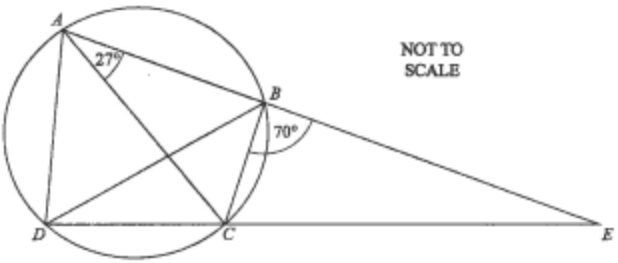

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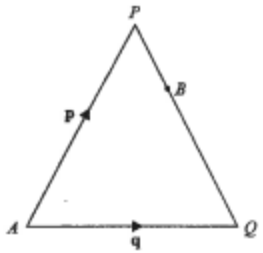

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