S31

FOR THE EXAMINER

EXAM. NUMBER:

Total Marks

Coimisiún na Scrúduithe Stáit
State Examinations Commission

JUNIOR CERTIFICATE EXAMINATION, 2006

MATHEMATICS – FOUNDATION LEVEL – (300 marks)

THURSDAY, 8 JUNE - MORNING, 9.30 TO 11.30

Time: 2 hours

Attempt **ALL** questions. Each question carries 50 marks.

Answers and supporting work should be written into the boxes provided.

Extra pages and graph paper can be obtained from the Superintendent, if needed.

The symbol ✍ indicates that supporting work must be shown to obtain full marks.

Make and model of calculator used:

For the Superintendent/Examiner use only:

Centre Stamp

Question	Mark
1	
2	
3	
4	
5	
6	
Total	
Grade	

1. **(a)**

(i) $57 + 43 =$

(ii) $57 - 43 =$

(b)

(i) $344 \div 8 =$

(ii) $192 \times 2 + 4 =$

(iii) $\sqrt{64} =$

(iv) $3^4 =$

(c) **(i)** Find the total cost of

2 Fruit Drinks @ €0·75 each
3 Scones @ €0·45 each
1 Sandwich @ €1·85.

Fruit Drinks:	€0·75 × 2	=
Scones:	€0·45 × 3	=
Sandwich:	€1·85 ×1	=
		_____
	Total	=

(ii) I pay for these items with a €10·00 note. How much change do I get?

2. **(a)** Write down the mode of the following numbers

5, 8, 3, 2, 3, 6, 1.

Mode =

(b) The pictogram shows the goals scored by four players in a school league last season.

Aisling: ● ● ● ●

Barbara: ● ●

Conor: ● ● ●

Dara: ●

Each ● represents 2 goals.

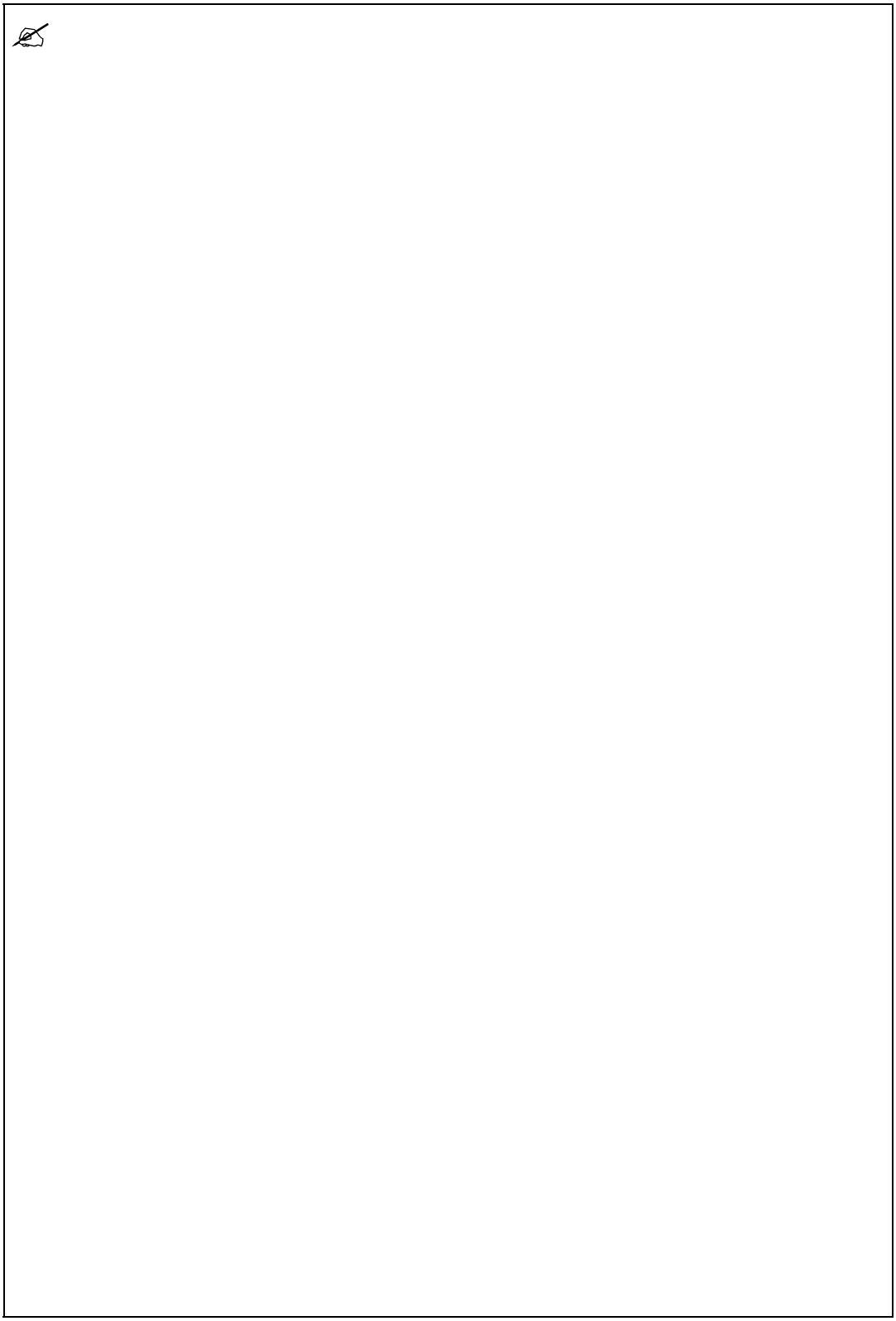
(i) How many goals did Conor score last season?

(ii) What was the total number of goals scored by the four players?

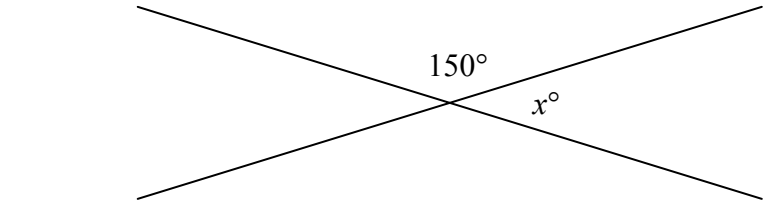
(iii) What percentage of the total goals did Aisling score?

Part (c) on next page

(c) 90 students were asked which language, French, German or Spanish, each was studying.
45 said French, 15 said German and the rest said Spanish.
Represent this information on a pie chart.



3. **(a)** Calculate the value of x in the diagram.



x =

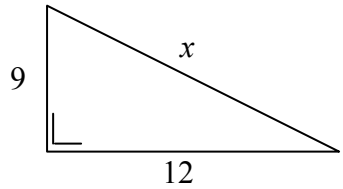
(b) **(i)** Construct a rectangle 8 cm long and 6 cm wide.

Part (b) continues on next page

(ii) Measure, in centimetres, the length of a diagonal of the rectangle you have drawn.

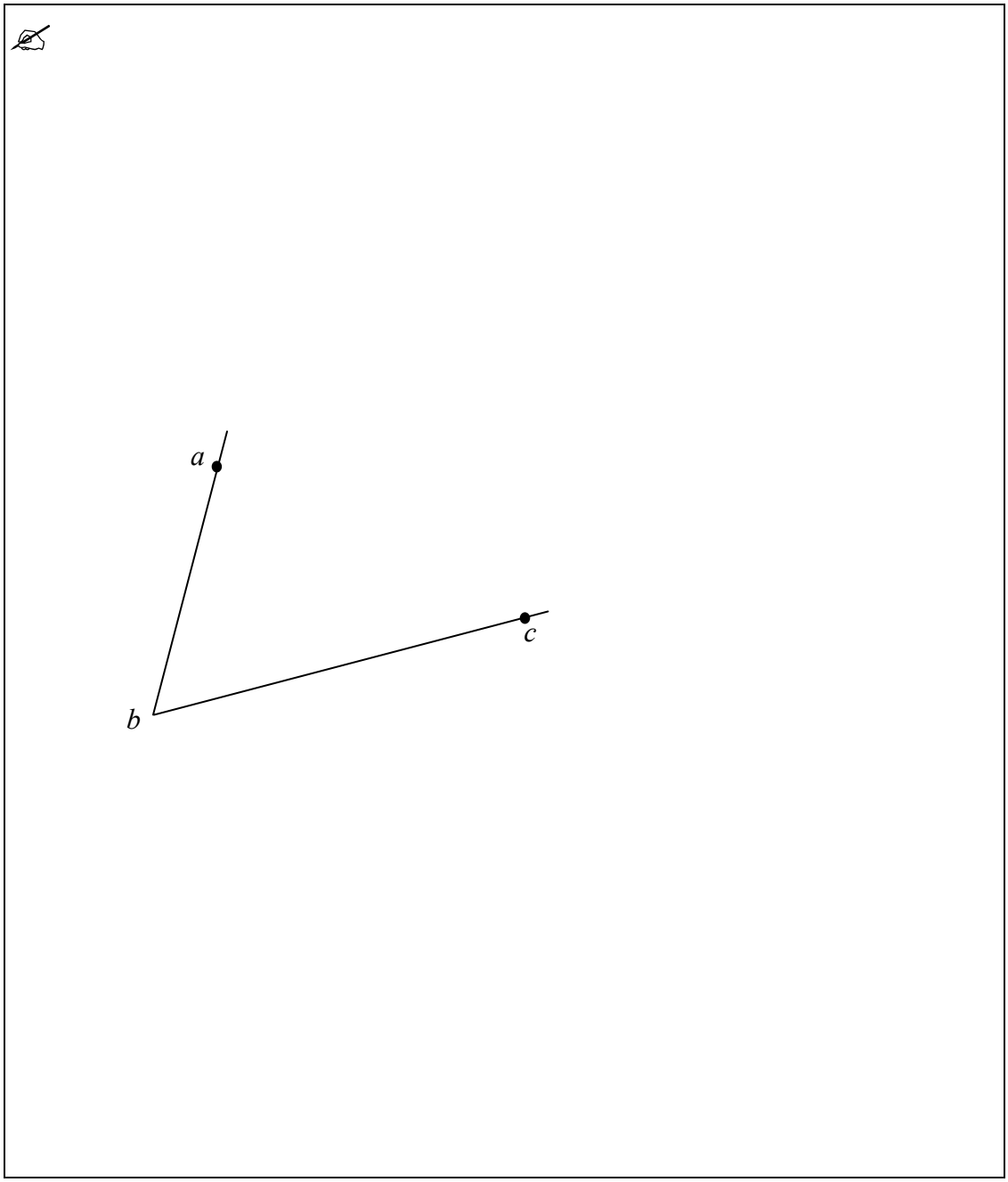
The length of the diagonal is:

(c) **(i)** Use the Theorem of Pythagoras to find the length of the side marked x in the right-angled triangle.



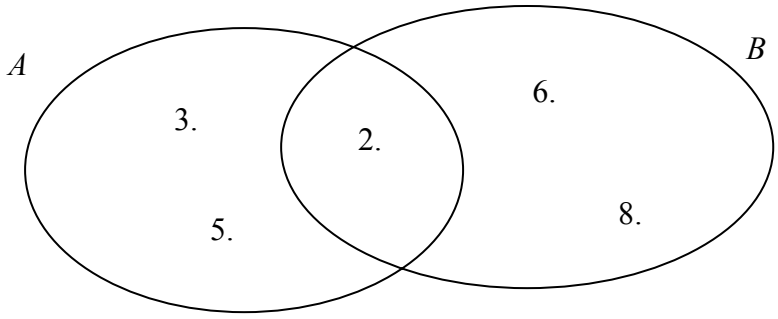
Part (c) continues on next page

(ii) Bisect the angle *abc*, without using a protractor.
Show all construction lines.



4. **(a)** Write $\frac{1}{4}$ as a decimal.

(b)



(i) $A = \{ \quad , \quad , \quad \}$

(ii) $A \cup B = \{ \quad , \quad , \quad , \quad , \quad \}$

Insert the correct symbol $\in$ or $\notin$ in the boxes below.

(iii) 8 ☐ A

(iv) 6 ☐ $(A \cup B)$

(c) Mary works 35 hours per week. She is paid €11 per hour.

(i) Find Mary's gross pay per week.

(ii) Tax is paid at 20%. What is the total tax due each week on Mary's gross pay?

(iii) What is Mary's take home pay if she has a weekly tax credit of €52?

5. **(a)** Find the value of $5x + 2$ when $x = 3$.

(b) **(i)** Solve for x:

$x + 3 = 10$

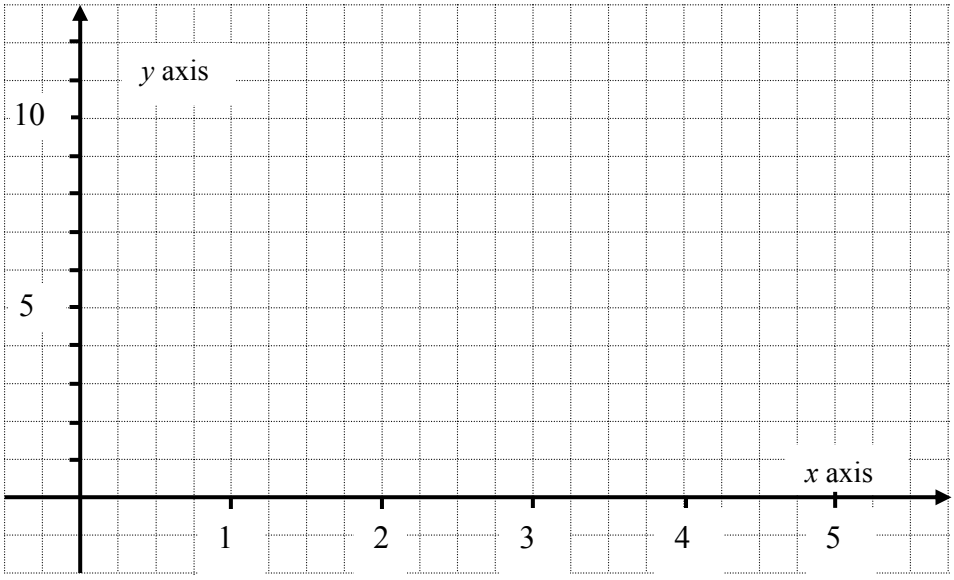
(ii) Solve for x:

$3(x - 2) = 18$

(c) **(i)** Given that $y = x + 4$, complete the table below:

x	1	2	3	4	5
y			7		

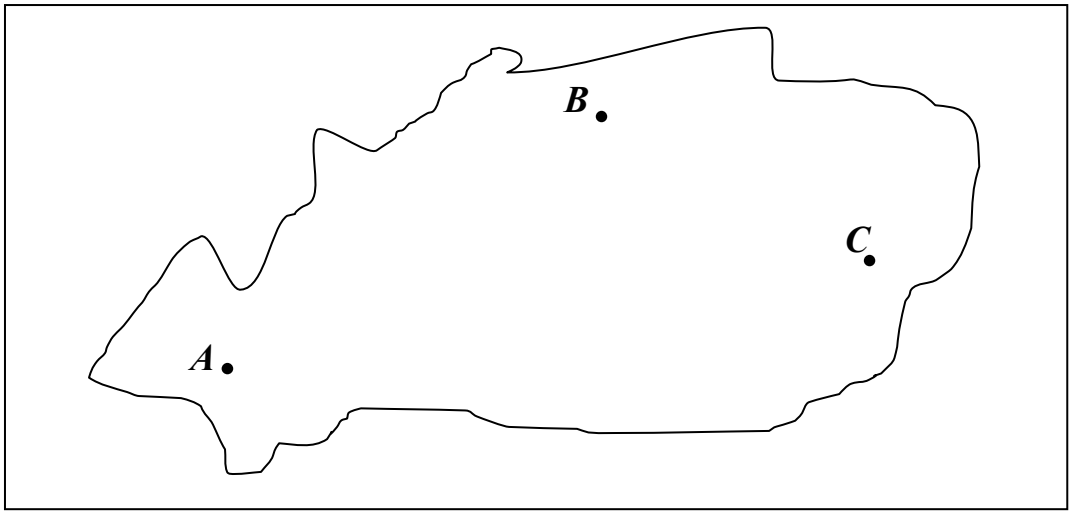
(ii) Using your answers from **(i)** draw the graph of $y = x + 4$ from $x = 1$ to $x = 5$.



6. **(a)** **(i)** Change 3·8 km to metres.

(ii) Change 2·5 m to centimetres.

(b)



The diagram shows the location of three towns *A*, *B* and *C*.

Using a ruler and taking 1 cm = 20 km,

(i) estimate the distance, in km, from *A* to *B*

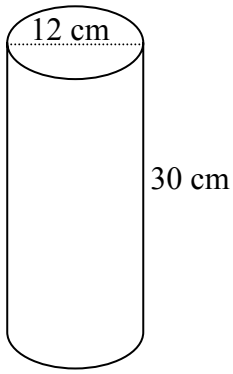
Part (b) continues on next page

(ii) estimate the total distance, in km, from A to C through B.

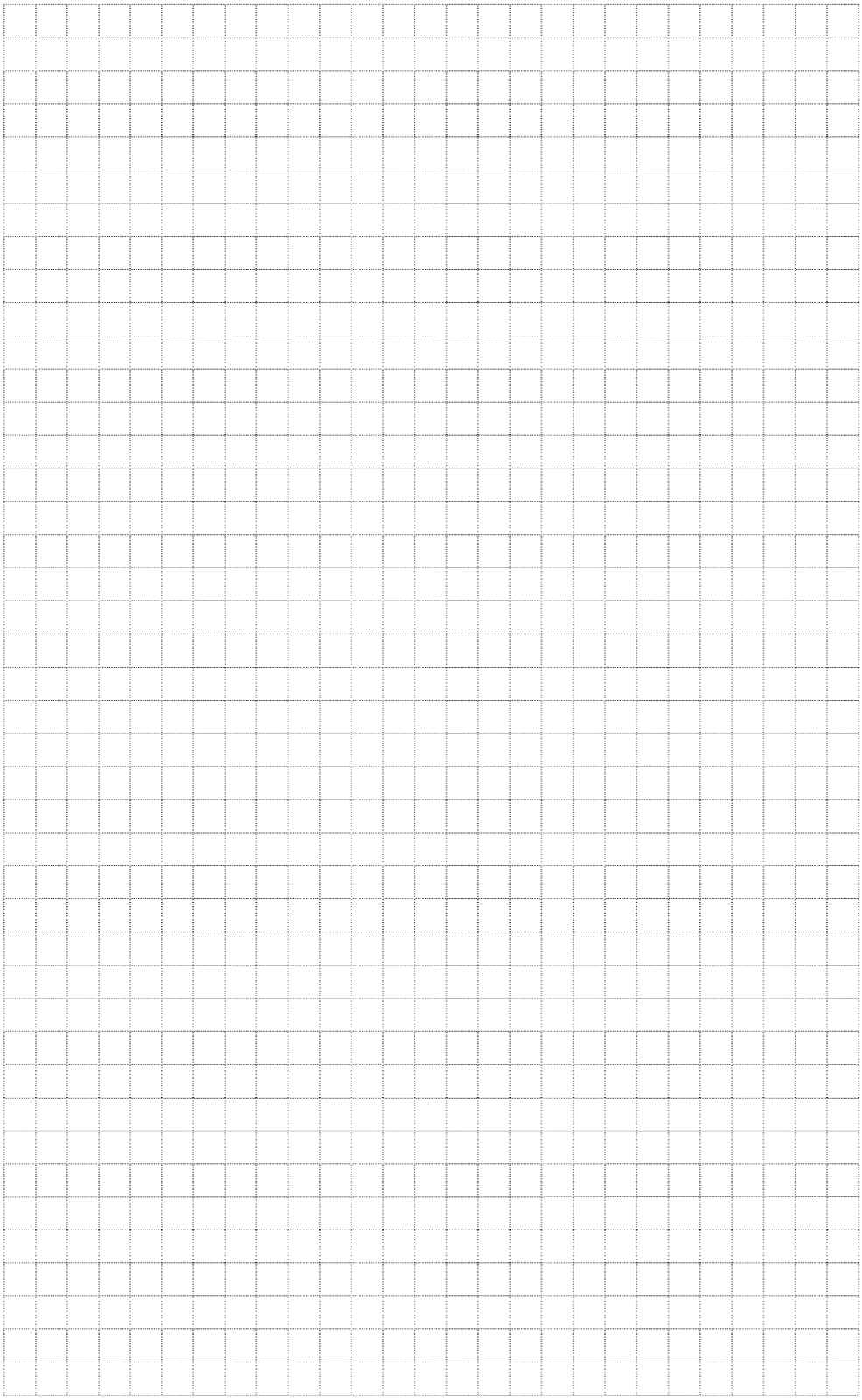
(c) **(i)** The diameter of a circle measures 12 cm.
Write down the length of the radius.

(ii) The diameter of a cylinder is 12 cm and its height is 30 cm.
Find the volume of the cylinder, taking $\pi = 3{\cdot}142$.

Volume $= \pi r^2 h$
$=$



Space for extra work



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