JCOL Basic Skills – Pack 2

Topics

Algebra – Can I solve a quadratic equation using factorising?

1 ▶ 2012 JCOL Paper 1 – Question 11 (b) ☐

Area, Perimeter and Volume– Can I find the volume of a cylinder?

2 ▶ 2020 JCOL Sample Paper – Question 2 (a) ☐

Functions and Graphs – Can I draw the graph of a quadratic function?

3 ▶ 2019 JCOL Paper 1 – Question 13 ☐

Sets – Can I fill out and answer questions on a 2 Set Venn Diagram?

4 ▶ 2014 JCOL Sample Paper 2 – Question 13 ☐

Probability – Can I calculate the relative frequency of an event?
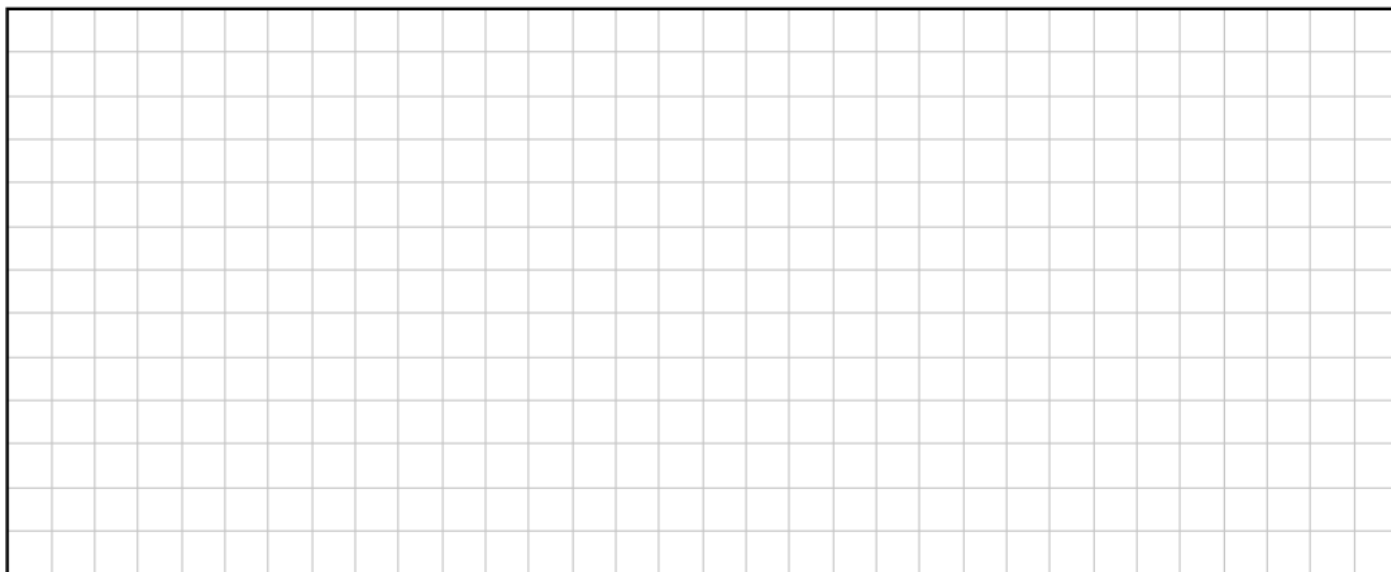
5 ▶ 2012 JCOL Paper 2 – Question 7 (a) ☐

www.mathspoints.ie for **worked solutions** to these questions.

🗀 JCOL Resources by Topic

🗀 JCOL Revision – 50 Common Questions

1 ▶ 2012 JCOL Paper 1 – Question 11 (b)
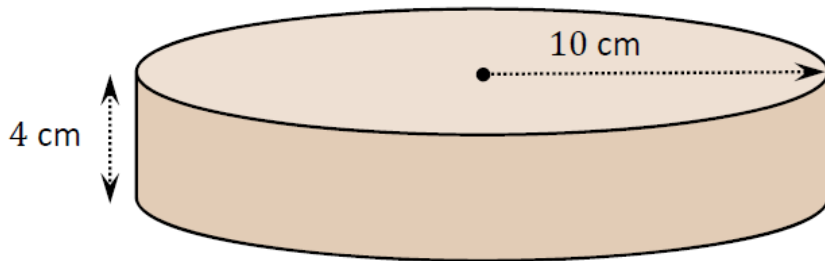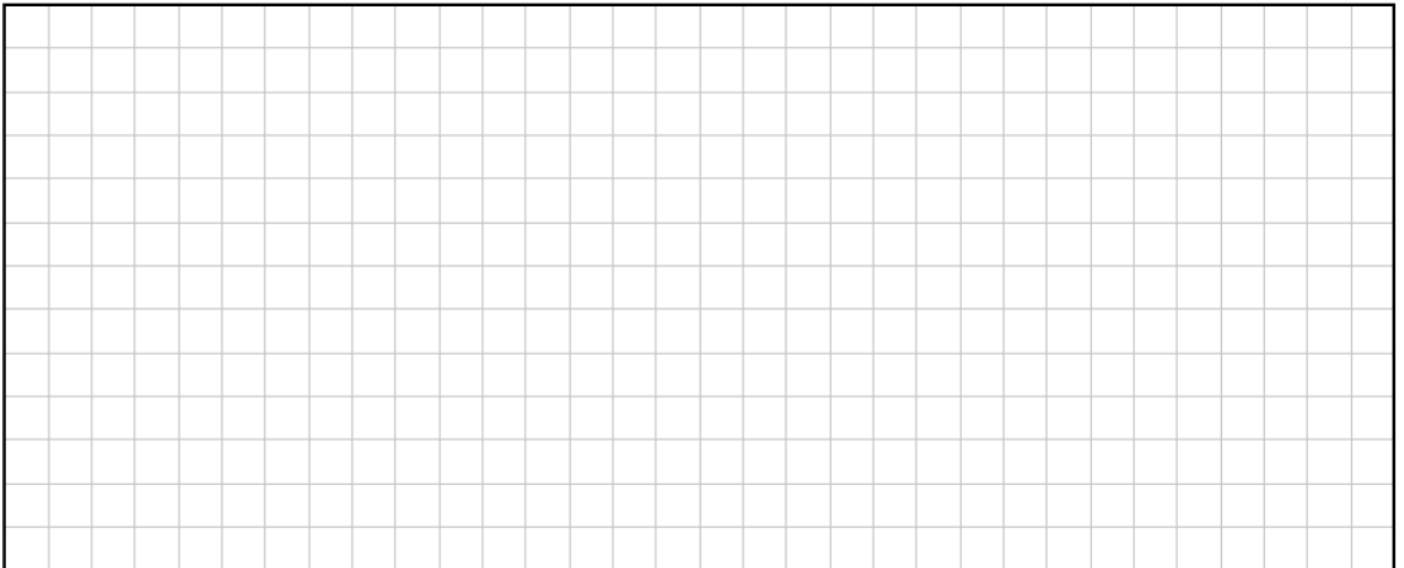
Solve the equation $x^2 - 3x - 10 = 0$.

Tom also bakes a cake.

His cake tin is in the shape of a cylinder.

It has the dimensions shown in the diagram below.

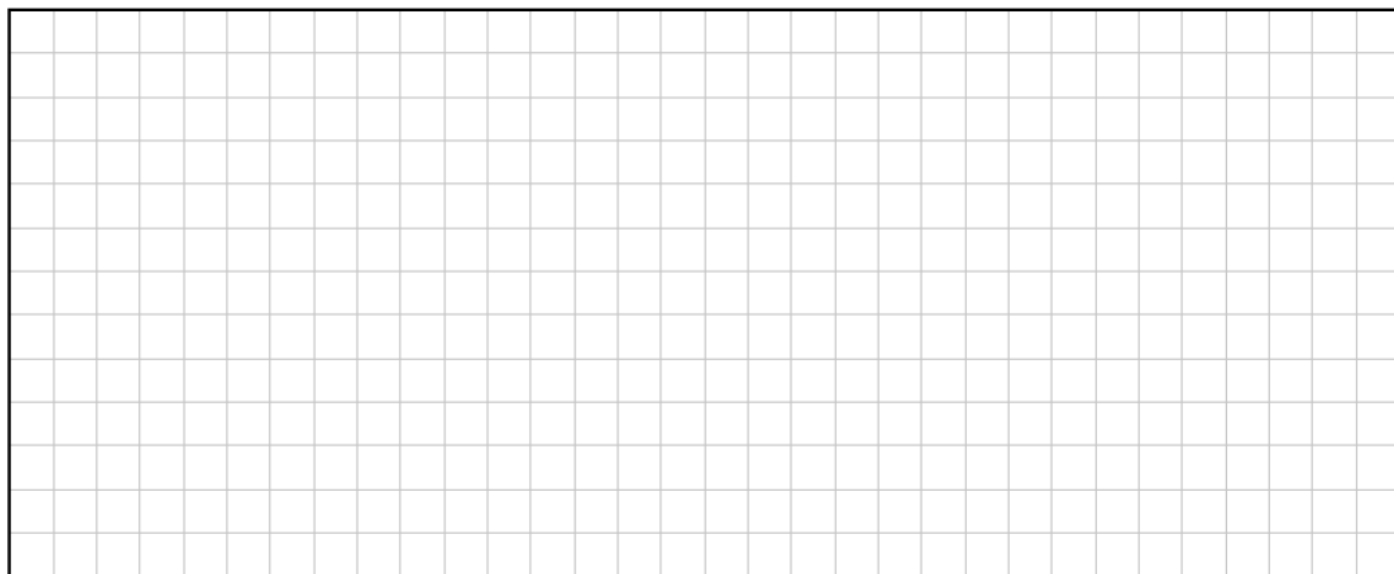Work out the **volume** of Tom's cake tin. Give your answer in terms of π.
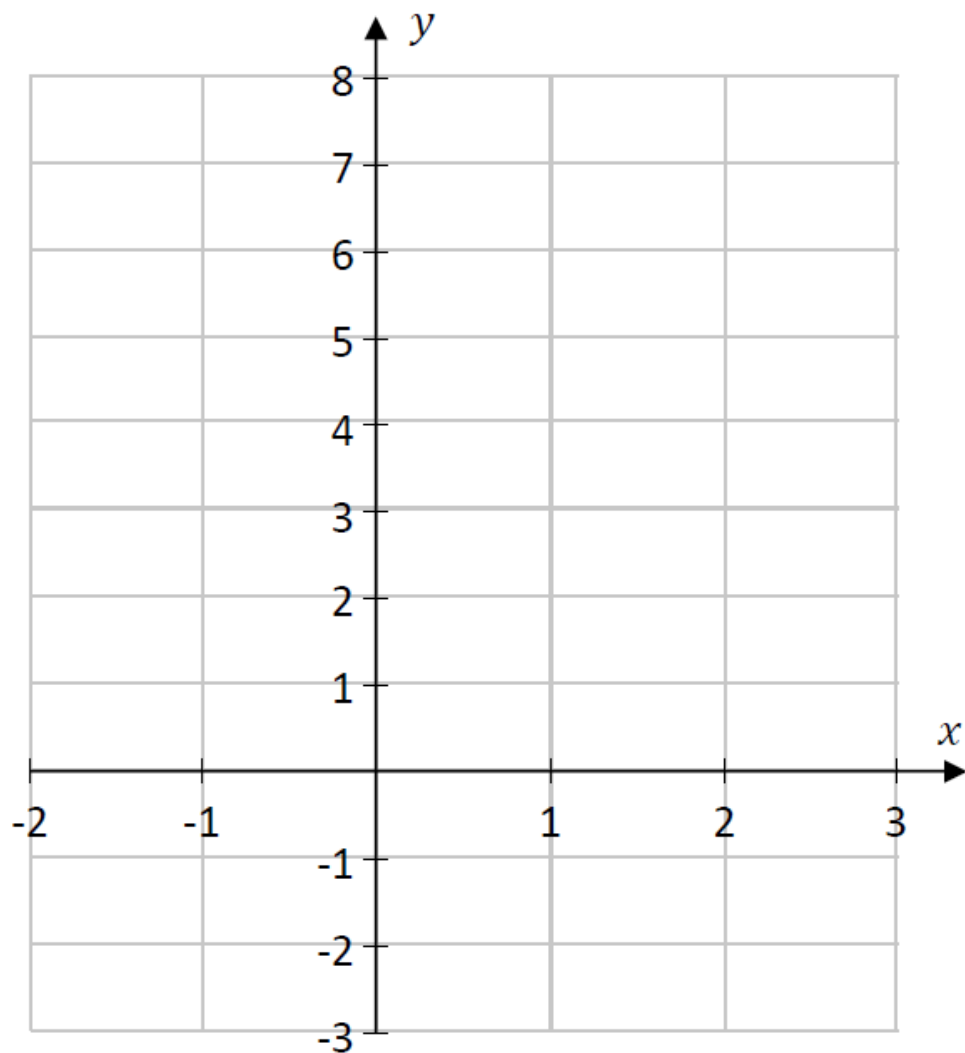
3 ▶ 2019 JCOL Paper 1 – Question 13

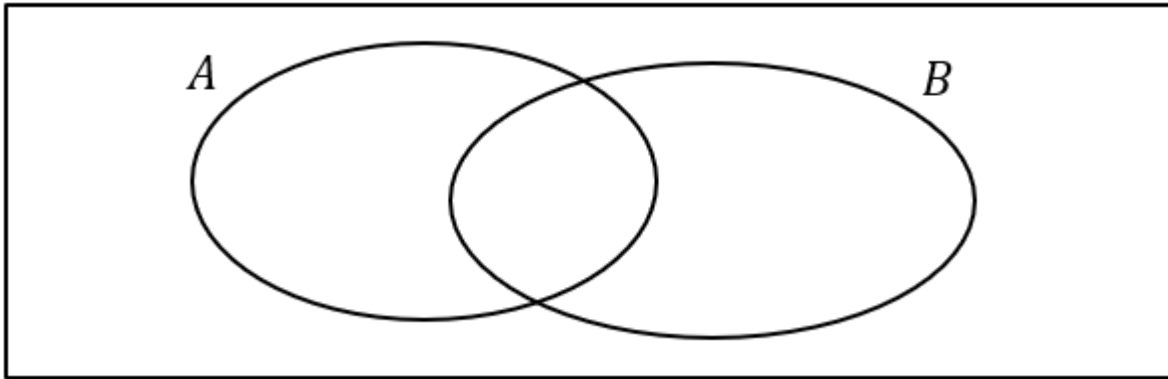Draw the graph of the function

$$f(x) = x^2 - x - 2$$

on the axes below, for $-2 \leq x \leq 3, \ x \in \mathbb{R}$.
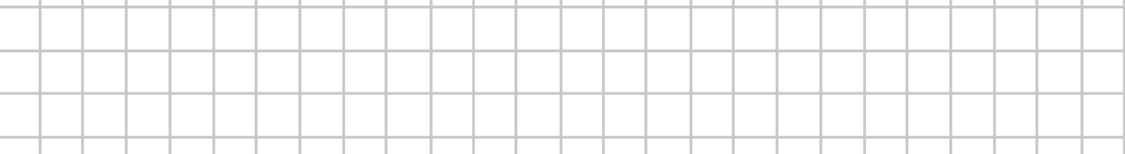
4 ▶ 2014 JCOL Sample Paper 1 – Question 13

$A = \{1, 2, 3, 4, 5\}$ $B = \{2, 4, 6, 8\}$

Fill the elements of A and B into the following Venn diagram:
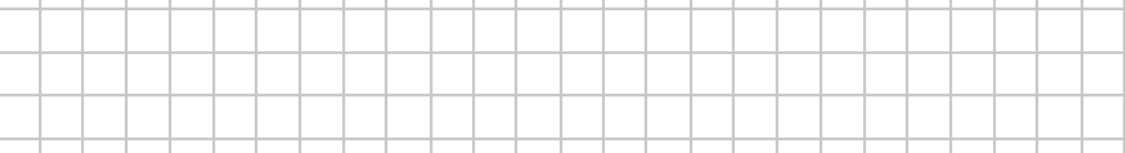

Hence list the elements of

(i) $(A \cup B)$

(ii) $(A \cap B)$

5 ▶ 2012 JCOL Paper 2 – Question 7

In a survey, 1500 people were asked which national radio station they normally listen to.

The results of the survey are given in the table below.

	RTE1	Today FM	Newstalk	Lyric FM	2FM	No national station
Frequency	375	195	120	45	165	
Relative frequency (as a fraction)	$\dfrac{375}{1500}$					
Relative frequency (as a decimal)			0·08			

(a) How many of the people surveyed do not listen to a national radio station?

(b) Complete the table.

(c) Find the sum of the relative frequencies written as fractions.

(d) Find the sum of the relative frequencies written as decimals.