

Solving Inequalities

Question Paper

Course	Edexcel IGCSE Maths
Section	2. Equations, Formulae & Identities
Topic	Solving Inequalities
Difficulty	Hard

Time allowed: 70
Score: /53
Percentage: /100

Question 1

Solve the inequality $x^2 > 3(x + 6)$

[4 marks]

Question 2

Solve $x^2 > 3x + 4$

[3 marks]

Question 3

Solve $2x^2 + 3x - 2 > 0$

[3 marks]

Question 4

Solve the inequality $4x^2 - 5x - 6 > 0$

[4 marks]

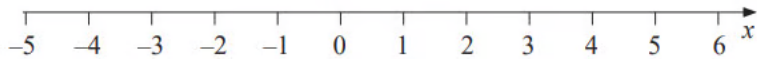
Question 5a

Solve $x^2 + 2x > 6x + 5$

[3 marks]

Question 5b

Represent your solution set to part (a) on the number line below.



[1 mark]

Question 6

n is an integer such that $3n + 2 \leq 14$ and $\frac{6n}{n^2 + 5} > 1$

Find all the possible values of n .

[5 marks]

Question 7

Here is a rectangle.

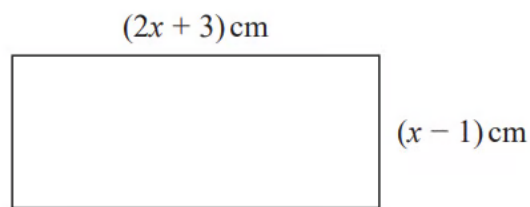


Diagram **NOT**
accurately drawn

Given that the area of the rectangle is less than 75 cm^2

find the range of possible values of x

[5 marks]

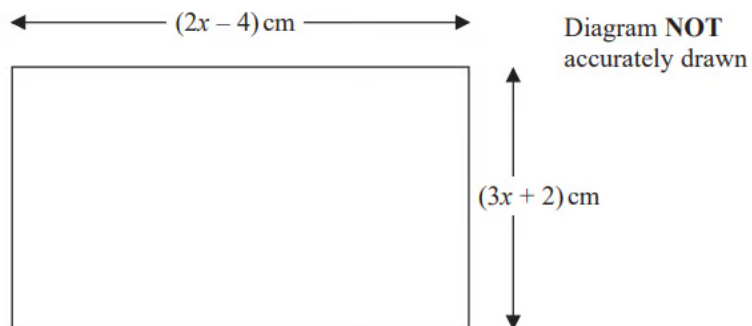
Question 8

Solve the inequality $5y^2 - 17y \leq 40$

[3 marks]

Question 9

The diagram shows a rectangle.

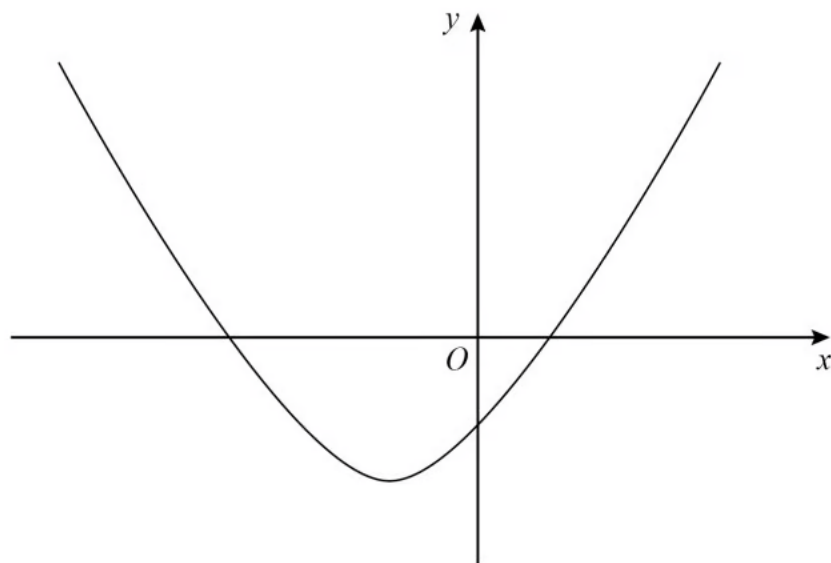


The area of the rectangle is $A \text{ cm}^2$
Given that $A < 3x + 27$
find the range of possible values for x .

[5 marks]

Question 10

Here is a sketch of the curve $y = x^2 + 4x - 12$



Work out the values of x for which $x^2 + 4x - 12 < 0$

Give your answer as an inequality.

[3 marks]

Question 11

Here are two inequalities.

$$-2 \leq x \leq 3$$

$$9 \leq x + y \leq 11$$

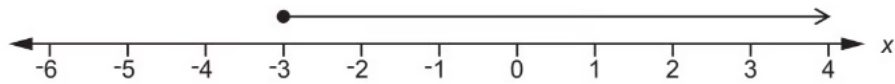
x and y are integers.

Work out the **greatest** possible value of $y - x$

[3 marks]

Question 12

Martha's solution to the inequality $8x + 5 \leq 3x - 10$ is shown on the number line.



Is her solution correct?
Explain your reasoning.

[4 marks]

Question 13

Solve the inequality.

$$x^2 - 5x - 6 \leq 0$$

[4 marks]

Question 14

Find the interval for which $x^2 - 7x + 10 \leq 0$.

$$\dots \leq x \leq \dots$$

[3 marks]