1 (a) Solve the inequality $2x + 7 > 4$

.....

(2)

(b) Solve $x^2 - 3x - 40 < 0$
Show clear algebraic working.

.....

(3)

(Total for Question 1 is 5 marks)

2 (a) Solve the inequality $5x + 9 > 14$

.....

(2)

(b) Solve the inequality $5y^2 - 17y \leqslant 40$

.....

(3)

(Total for Question 2 is 5 marks)

3 (b) Solve the inequality $3x + 17 < 9x + 2$

.....

(2)

(b) Solve the inequality $2y^2 - 7y - 30 \leqslant 0$
Show your working clearly.

.....

(3)

(Total for Question 3 is 5 marks)

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

.....

(Total for Question 4 is 4 marks)

5

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

Find all the possible values of n.

.....

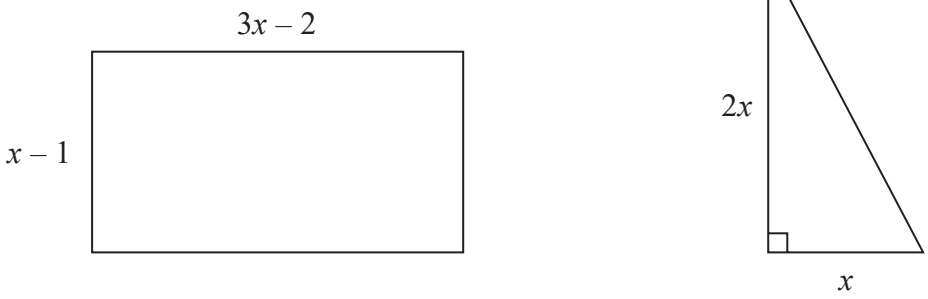
(Total for Question 20 is 5 marks)

6 Find algebraically the set of values of x for which

$$x^2 - 49 > 0 \quad \textbf{and} \quad 5x^2 - 31x - 72 > 0$$

(Total for Question 6 is 5 marks)

7 Here is a rectangle and a right-angled triangle.



All measurements are in centimetres.
The area of the rectangle is greater than the area of the triangle.

Find the set of possible values of x.

.....

(Total for Question 7 is 5 marks)

8 Here is a rectangle.

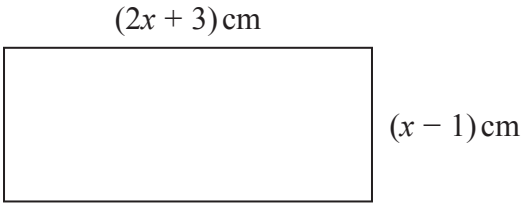


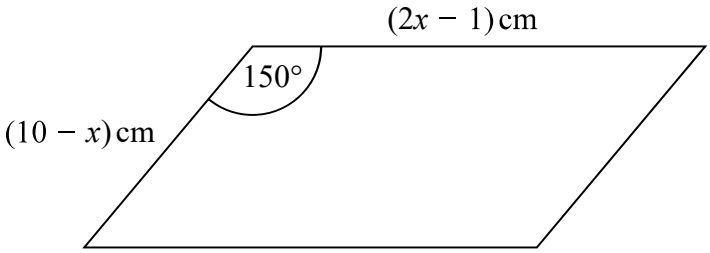
Diagram **NOT** accurately drawn

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

find the range of possible values of x

(Total for Question 8 is 5 marks)

9 The diagram shows a parallelogram.



The area of the parallelogram is greater than 15 cm^2

(a) Show that $2x^2 - 21x + 40 < 0$

(3)

(b) Find the range of possible values of x.

.....

(3)

(Total for Question 9 is 6 marks)

10 The diagram shows a rectangle.

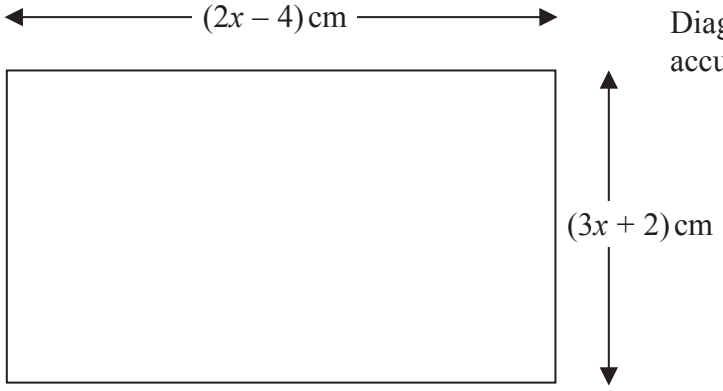


Diagram **NOT** accurately drawn

The area of the rectangle is A cm^2

Given that $A < 3x + 27$
find the range of possible values for x.

(Total for Question 10 is 5 marks)