QUADRATIC INEQUALITIES – PRACTICE QUESTIONS

1.
Solve $x^2 > 25$.

2.
Solve $x^2 + 11 \leq 60$.

3.
Solve $x^2 - 10x \geq 0$.

4.
Solve $x^2 + 9x + 18 < 0$.

5.
Solve $x^2 + 8x - 20 < 0$.

6.

Solve $x^2 - 6x - 9 < 7$.

7.

Solve $x^2 + 9x + 37 \leq 7 - 2x$.

8.

Solve $2x^2 + 13x - 17 \geq x^2 + 4x + 5$.

9.

Solve $3x^2 - 11x + 15 > 2x^2 - 8x + 25$.

10.
Solve $2x^2 + 9x + 9 \leq 0$.

11.
Solve $3x^2 + 13x + 4 \geq 0$.

12.
Solve $4x^2 - 5x - 6 < 0$.

13.
Solve $4x^2 + 8x - 5 \leq 0$.

14.

Solve $5x^2 + 19x + 12 > 2x^2 + 18x + 22$.
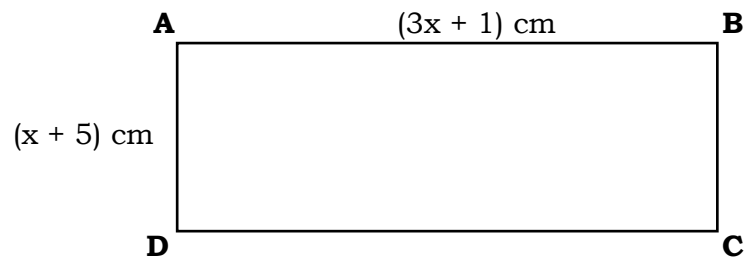
15.

Solve $8x^2 + 11x + 3 < 2x^2$.

16.
Find a range of values for x for which $x^2 - 21 < 4$ and $12x - 11 \geq 13$.

17.
Find a range of values for x for which $x^2 + 5x - 24 \leq 0$ and $2x^2 - x \geq 10$.
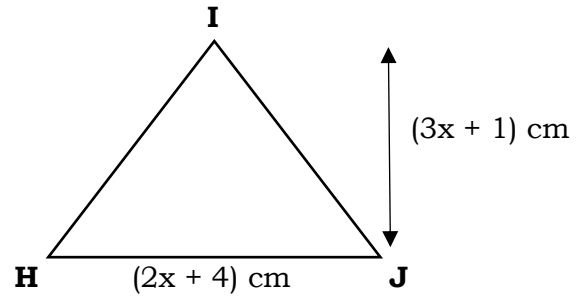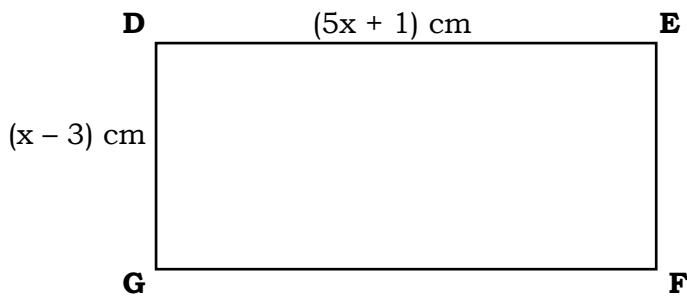
18.
Below is the rectangle ABCD.

A $\qquad$ (3x + 1) cm $\qquad$ B

(x + 5) cm

D $\qquad$ C

ABCD has an area of greater than 62 cm².

Given that x is a positive integer, find the smallest possible perimeter of ABCD.
You may use a calculator.

19.
Below is the rectangle DEFG and the triangle HIJ.

D   (5x + 1) cm   E

(x − 3) cm

G   F

I

(3x + 1) cm

H   (2x + 4) cm   J

The area of the rectangle is larger than the area of the triangle.
The difference between the areas is less than 31 cm².

Find a range of possible values for x.