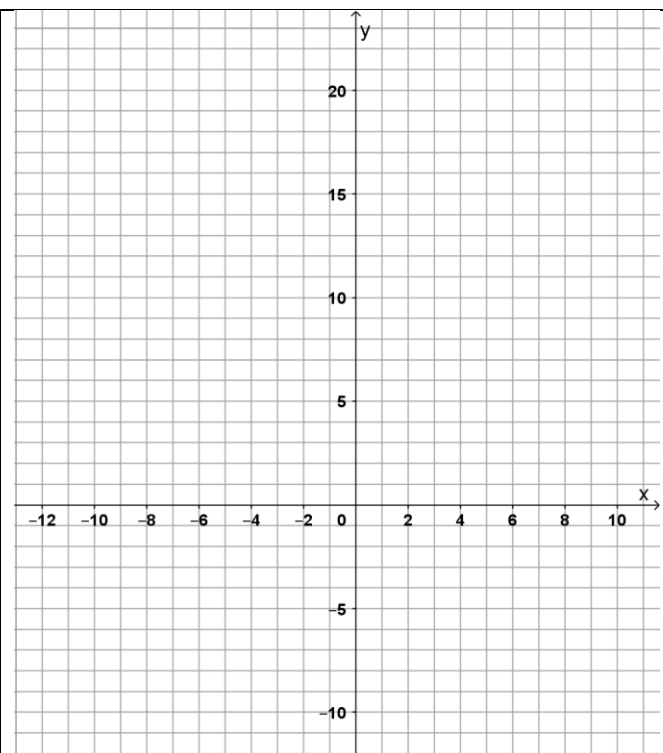
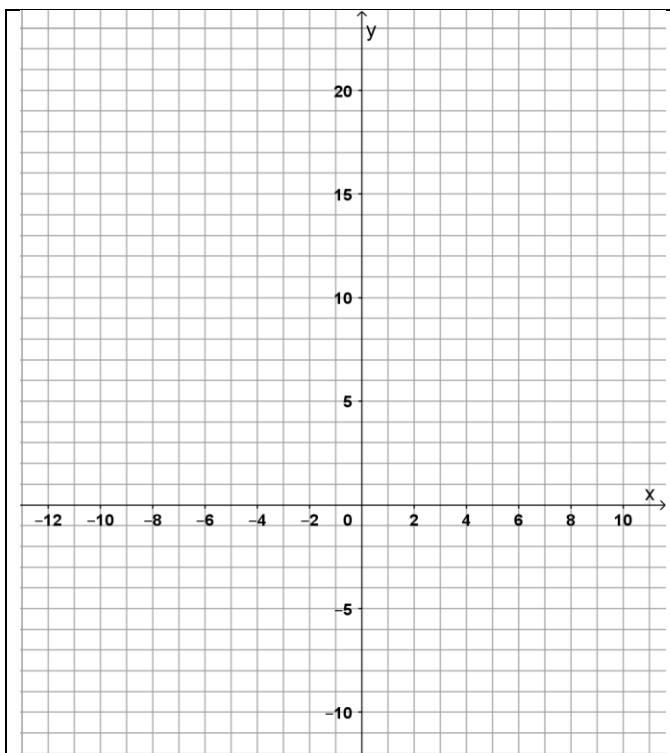


PC Inequalities Assignment 2, 5%

Name:

This assignment should also serve as a review of unit 4, Quadratics.

- For each straight line, calculate and plot at least three points.
- For each parabola, calculate and plot the vertex, the y-intercept and any x-intercepts.



Shade the region such that:

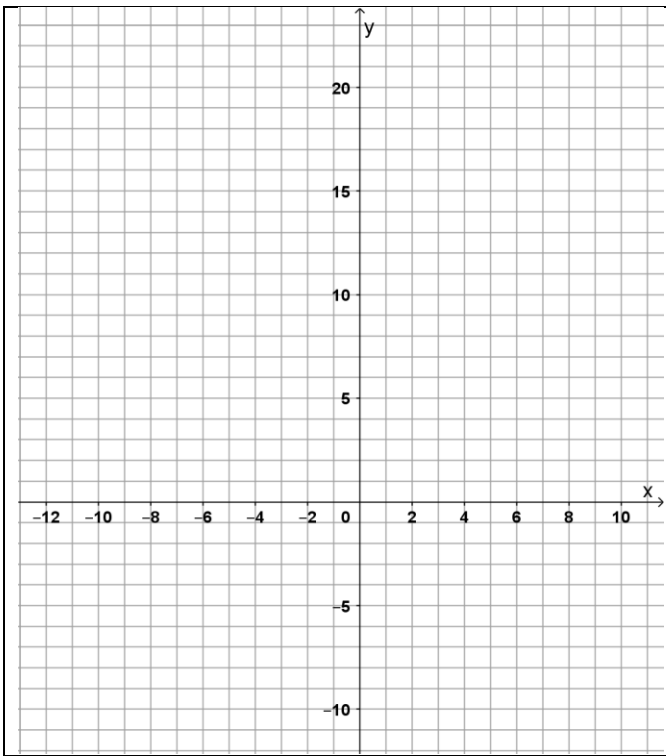
$$y \geq x^2 - 9x + 18$$

Find x -intercepts of the parabola by factoring.

Shade the region such that:

$$5 < y < -(x - 3)^2 + 19$$

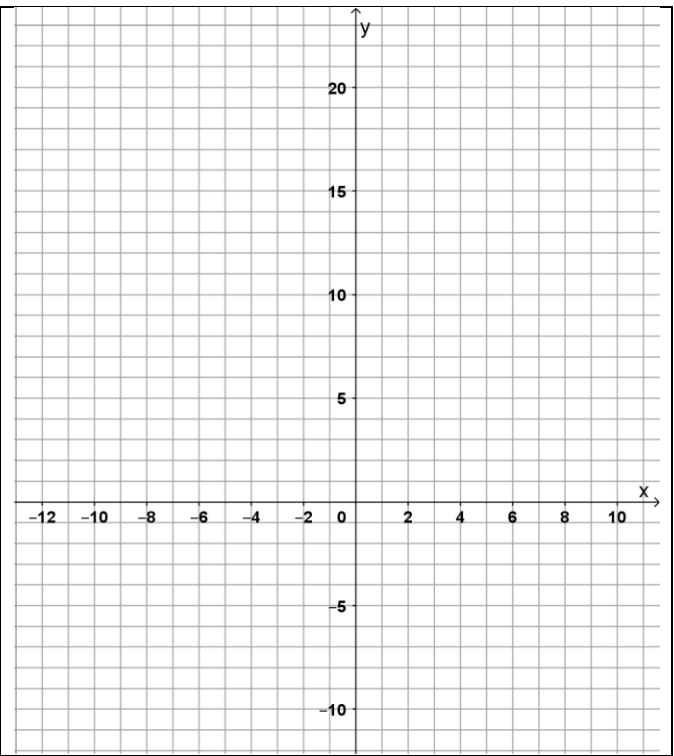
Find x -intercepts of the parabola by rearranging to isolate x .



Shade the region such that:

$$y \leq x^2 - 6x + 7$$

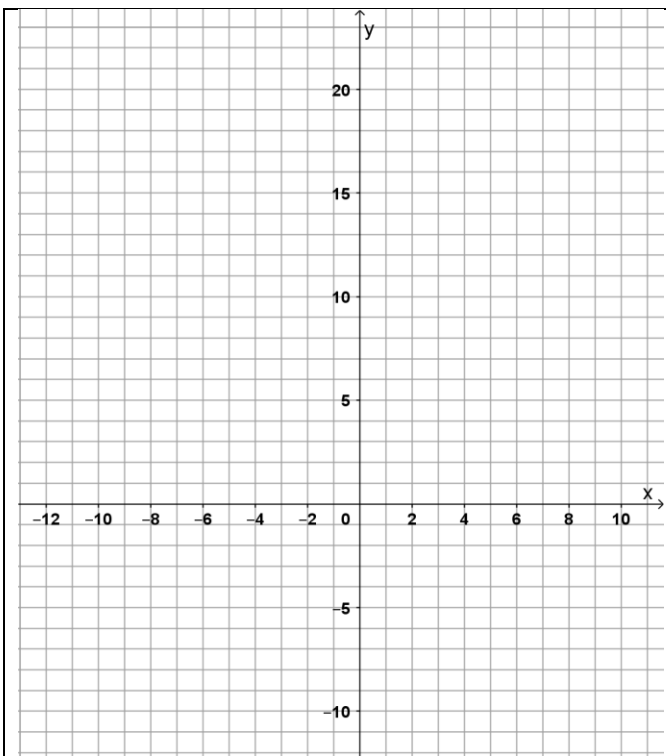
Find x-intercepts of the parabola by using the quadratic formula.



Shade the region such that:

$$x^2 + 6x - 1 < y < 10$$

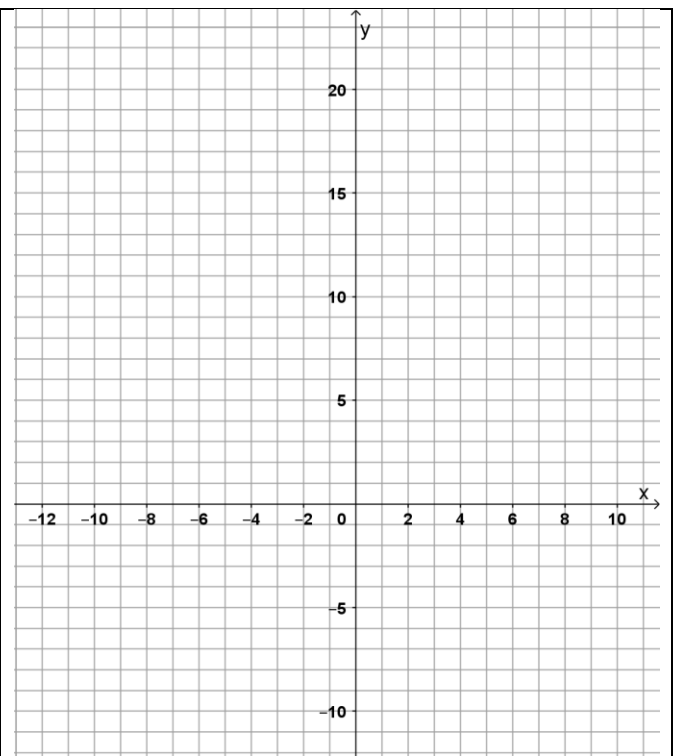
Find vertex of parabola by completing the square. Then find x-intercepts by rearranging to isolate x .



Shade the region such that:

$$x^2 - 9 < y < x + 5$$

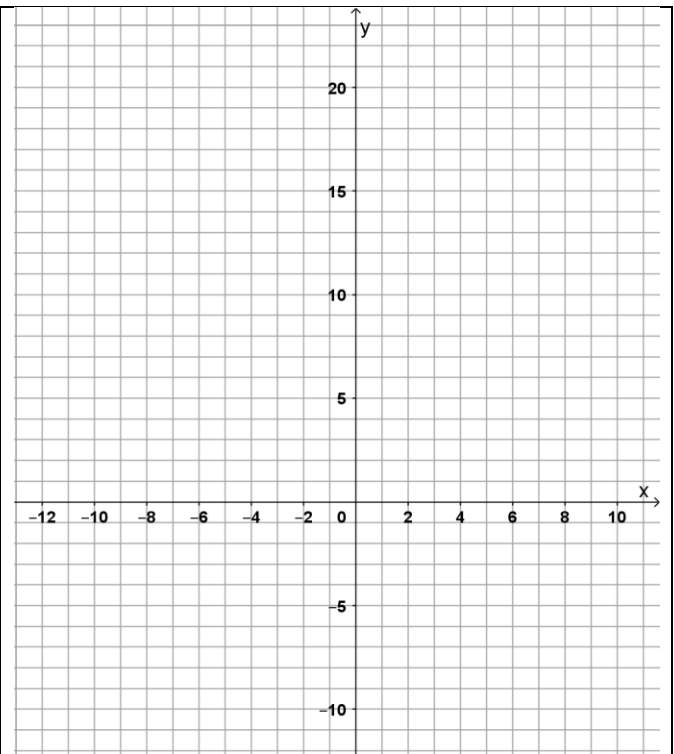
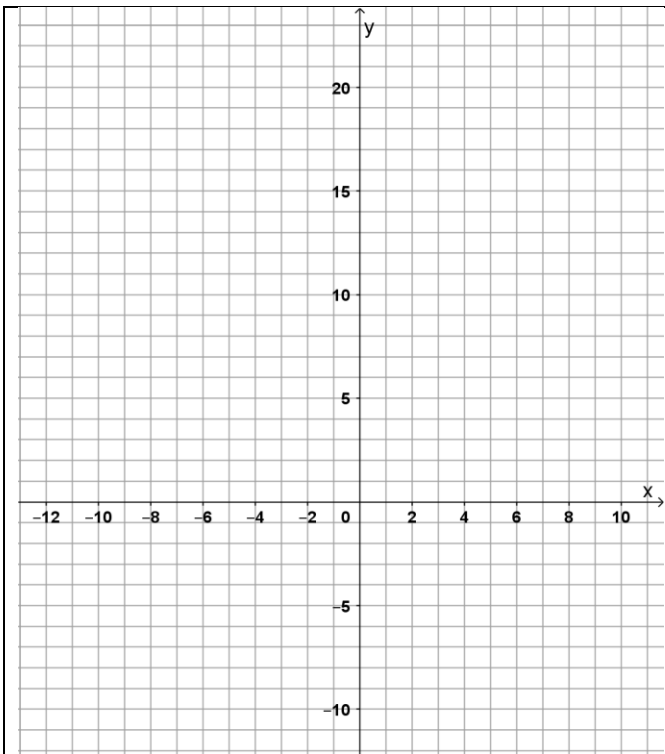
Use any method of calculation (not technology).



Calculate the interval of x such that:

$$x^2 - 9 < 0$$

Draw the parabola $y = x^2 - 9$. Determine the interval on the x axis for which $x^2 - 9$ is negative.



Calculate the interval of x such that:

$$x^2 - 11x + 28 < 2x - 2$$

Method: Rearrange to the form

$$ax^2 + bx + c < 0$$

Sketch the resulting parabola.

Calculate the two intervals of x such that:

$$x^2 - 11x + 28 \geq 2x - 2$$

Method: use your work from the last question.