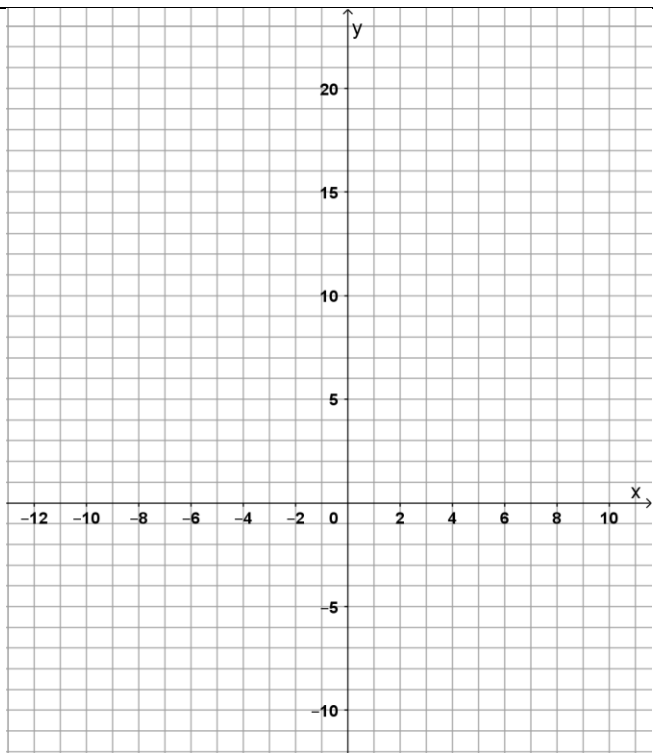
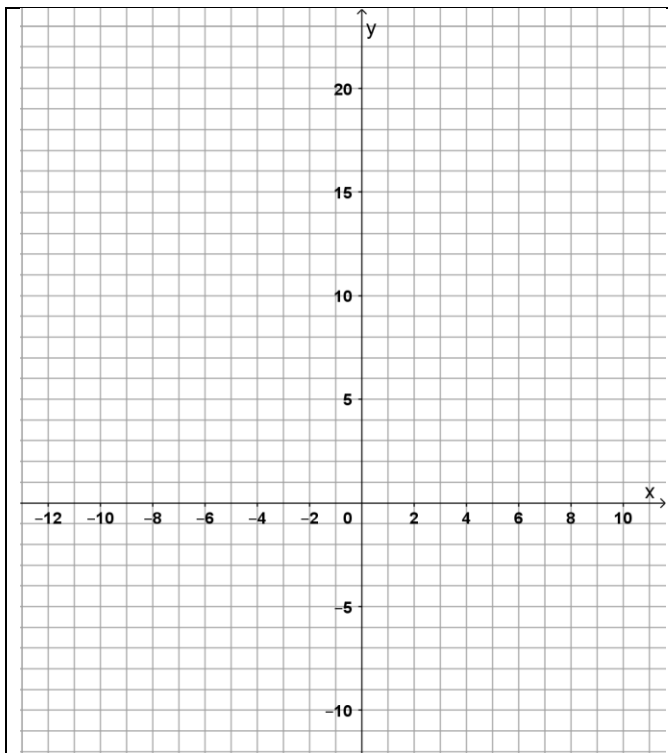


PC Inequalities Assignment 2 version b further practice

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:

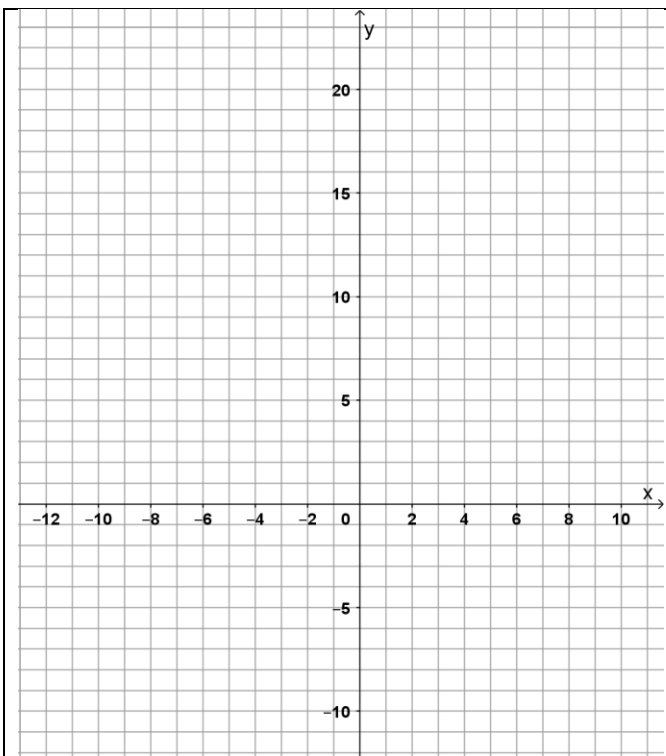
$$y \geq x^2 + x - 12$$

Find x -intercepts of the parabola by factoring.

Shade the region such that:

$$(x + 6)^2 - 8 < y < 2x + 10$$

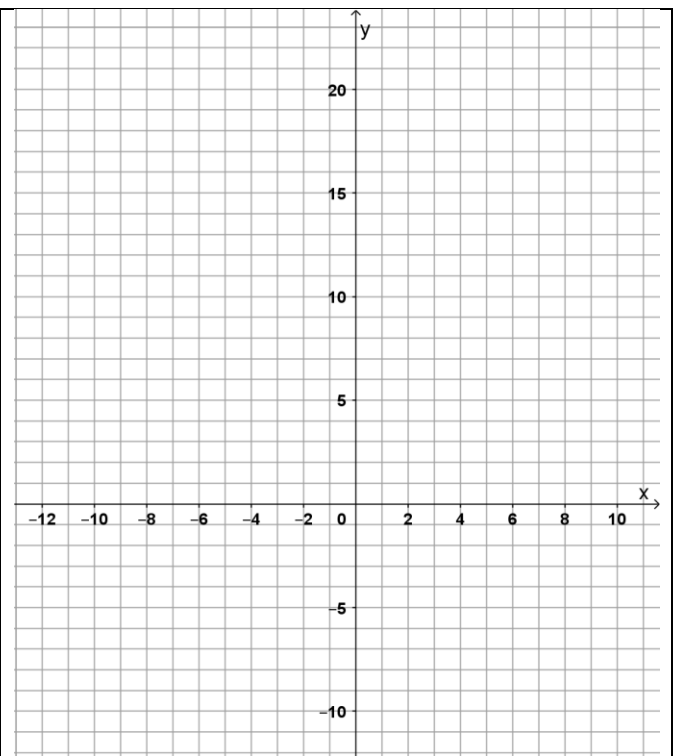
Find x -intercepts of the parabola by rearranging to isolate x . (do not use the quadratic formula).



Shade the region such that:

$$y \leq x^2 - 8x + 10$$

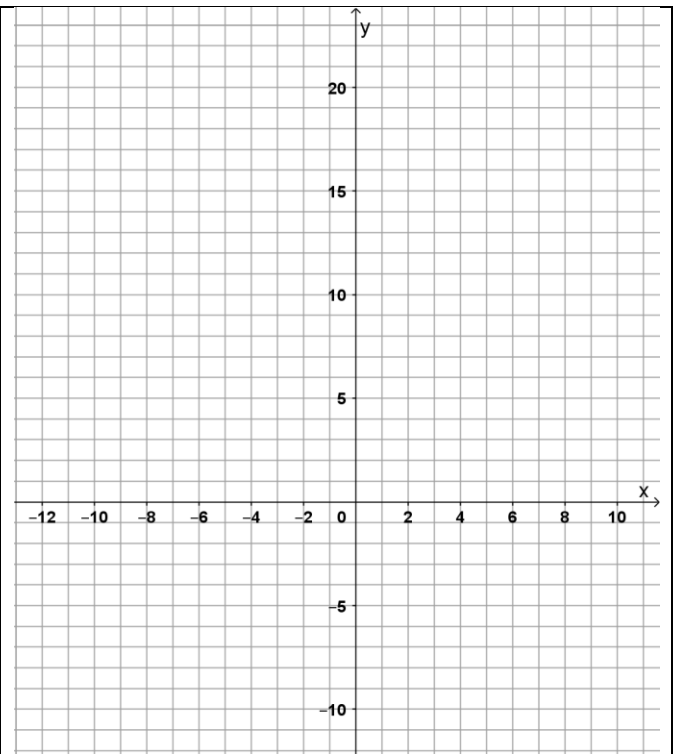
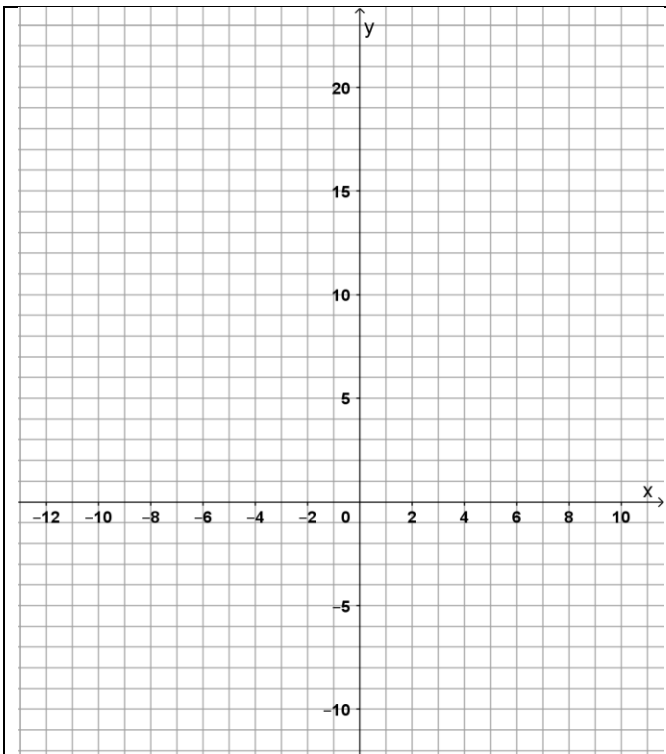
Find x-intercepts of the parabola by using the quadratic formula.



Shade the region such that:

$$\frac{1}{2}x + 10 < y < (x - 4)^2 + 1$$

Then find x-intercepts of the parabola by rearranging to isolate x . (do not use the quadratic formula)



Shade the region such that:

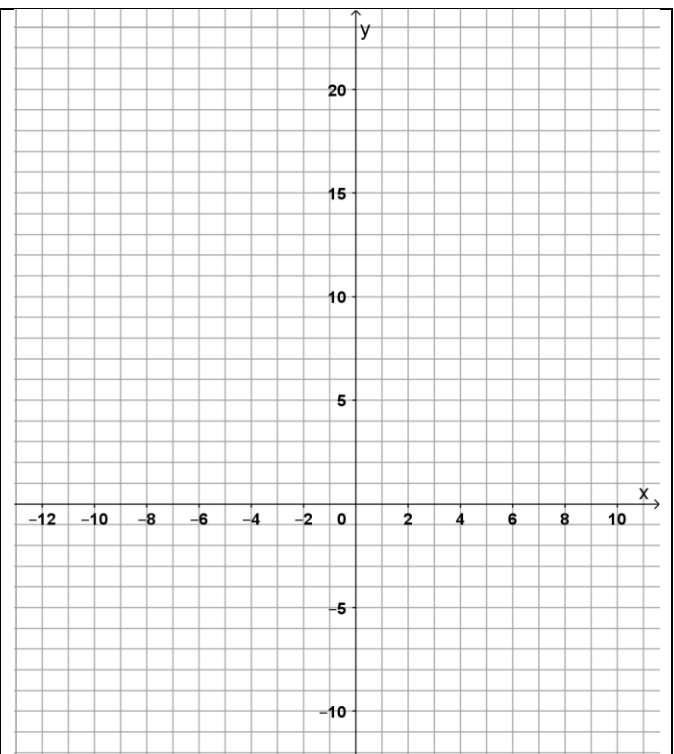
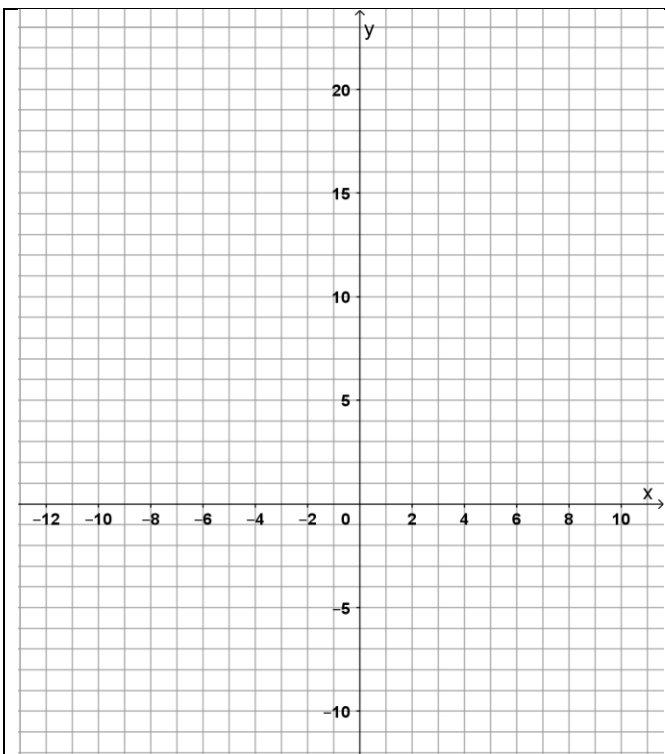
$$x + 4 < y < 25 - x^2$$

Use any method of calculation (not technology).

Calculate the interval of x such that:

$$25 - x^2 > 0$$

Draw the parabola $y = x^2 - 25$. Determine the interval on the x axis for which $x^2 - 25$ 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.