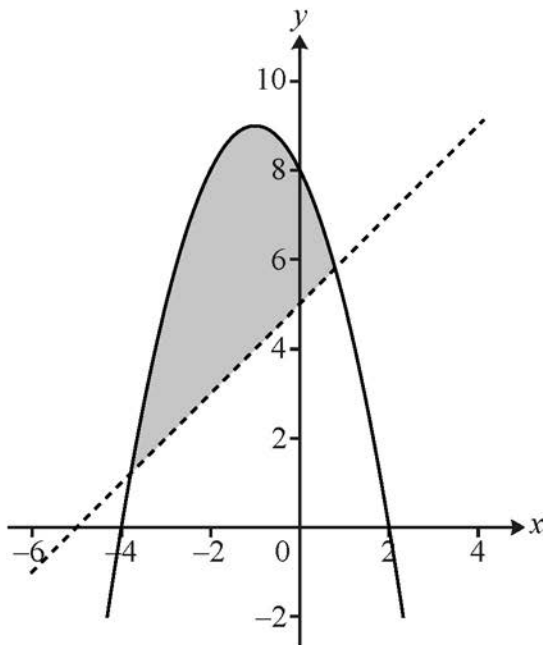


- 3 (a) The diagram shows the line  $y = x + 5$  and the curve  $y = 8 - 2x - x^2$ . The shaded region is the finite region between the line and the curve. The curved part of the boundary is included in the region but the straight part is not included.

Write down the inequalities that define the shaded region.

[2]



- (b) In this question you must show detailed reasoning.

Solve the inequality  $8 - 2x - x^2 > x + 5$  giving your answer in exact form.

[3]