

chapter

7

Algebra 3

Section 7.2 Quadratic and rational inequalities

PROJECT MATHS

Text & Tests 6

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1. Quadratic inequalities

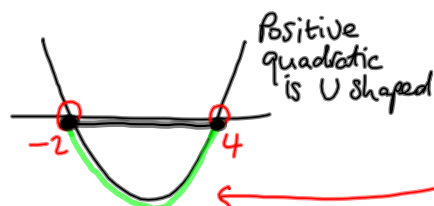
Example 1

Solve the inequality $x^2 - 2x - 8 \leq 0$.

$$\begin{aligned} \text{If } x^2 - 2x - 8 &= 0 \\ \Rightarrow (x - 4)(x + 2) &= 0 \\ \Rightarrow x = 4 \quad | \quad x = -2 \end{aligned}$$

When is value of graph ≤ 0
i.e. below the x-axis?

Sketch



We see that when
x is inside -2 and 4
value of function ≤ 0

$$\Rightarrow -2 \leq x \leq 4$$