



Air maths tuition

Interact, engage and perform

Modulus Inequalities | Past Paper Questions | C3 OCR June 2012 Q1


Solve the inequality $|2x - 5| > |x + 1|$. [5]

$$(2x - 5)^2 > (x + 1)^2$$
$$\therefore 4x^2 - 20x + 25 > x^2 + 2x + 1$$
$$\therefore 3x^2 - 22x + 24 > 0$$
$$\therefore (3x - 4)(x - 6) > 0$$

\therefore critical values


$$3x - 4 = 0 \text{ or } x - 6 = 0$$
$$\therefore x = \frac{4}{3} \text{ or } x = 6$$

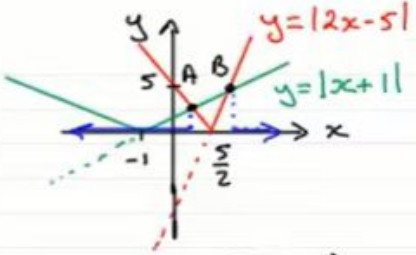
\therefore from the graph: $x < \frac{4}{3}$ or $x > 6$



At A: $x + 1 = -(2x - 5)$
 $\therefore x + 1 = -2x + 5$
 $\therefore 3x = 4 \Rightarrow x = \frac{4}{3}$

At B: $2x - 5 = x + 1$
 $\therefore x = 6$

From the graph
 $x < \frac{4}{3}$ or $x > 6$ 



With the acknowledgement of [Exam Solutions](#).
Find lots more revision sheets on [Air Maths Tuition](#).
[This Video](#)



Exam Solutions
maths made easy