

12	11b	Solve $ 3x - 1 < 2$.	2
<p>Two cases:</p> $3x - 1 < 2 \qquad \qquad \qquad -(3x - 1) < 2$ $3x < 2 + 1 \qquad \qquad \qquad 3x - 1 > -2$ $3x < 3 \qquad \qquad \qquad 3x > -2 + 1$ $x < 1 \qquad \qquad \qquad 3x > -1$ $\qquad \qquad \qquad x > -\frac{1}{3}$ $\therefore -\frac{1}{3} < x < 1$ <p>Alternatively:</p> $-2 < 3x - 1 < 2$ $-1 < 3x < 3$ $-\frac{1}{3} < x < 1$ $\therefore -\frac{1}{3} < x < 1$			<p>State Mean: 1.59/2</p>

* These solutions have been provided by [projectmaths](#) and are not supplied or endorsed by the Board of Studies

Board of Studies: Notes from the Marking Centre

Only a handful of candidates achieved full marks. In better responses, candidates solved the inequality in one line by stating $-2 < 3x - 1 < 2$. In many responses, candidates wrote separate inequalities but made errors with the direction of the inequality or with the negative sign. The inequality was actually an intersection rather than a union, which was ignored by many candidates.

A common approach was to create an equation and solve to produce $x = 1$ and $x = -\frac{1}{3}$ then test the three regions created by these critical values. Another problem was the failure to divide by 3 on the last line of one inequality; for example, $3x < 3$ followed by $x < 3$.

Source: http://www.boardofstudies.nsw.edu.au/hsc_exams/