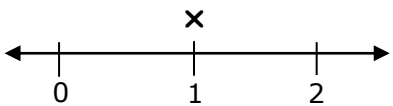
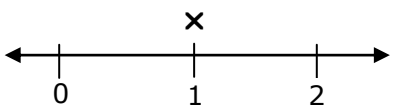


11	1c	Solve $\frac{4-x}{x} < 1$.	3
$\frac{4-x}{x} < 1$ <p>Boundary or critical points occur at discontinuities or at inequalities. There is a discontinuity (not included) at $x = 0$ There is an equality (not included) at</p> $\frac{4-x}{x} = 1$ $4 - x = x$ $2x = 4$ $x = 2$  <p>Choose 1: subs in $\frac{4-x}{x} < 1$: False $\therefore x < 0$ or $x > 2$</p>		<p>Or:</p> $\frac{4-x}{x} < 1$ <p>Multiply both sides by x^2:</p> $x^2 \times \frac{4-x}{x} < x^2 \times 1$ $x(4-x) < x^2$ $4x - x^2 < x^2$ $2x^2 - 4x > 0$ $2x(x-2) > 0$  <p>Choose 1: subs in $\frac{4-x}{x} < 1$: False $\therefore x < 0$ or $x > 2$</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

Many candidates recognised the domain and wrote $x \neq 0$. The most common method used to establish the critical points was to multiply both sides by the square of the denominator. A few candidates found it difficult to correctly interpret their working to reach the final solution and gave responses such as $0 > x > 2$ or $x > 0,2$.

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