7 The curve C has equation $y = \frac{x^2 + x + 1}{x+1}$.

(a) Find the equations of the asymptotes of C. [3]

(b) Find the coordinates of any stationary points on C. [3]

(e) Find, in exact form, the set of values of x for which $\frac{|x|^2 + |x| + 1}{|x|+1} < 3$. [3]

Additional page

If you use the following page to complete the answer to any question, the question number must be clearly shown.