

6. (a) If x is real, show that the maximum value of

$$y = \frac{x^2 - x + 1}{x^2 + x + 1}$$

is 3, and the minimum is $\frac{1}{3}$. [5]

- (b) Draw the graph of y from the previous part as a function of x . Explain the key steps of your drawing. [5]