2 $f(x) = 2x^2 + 4x + 9$

Given that $f(x)$ can be written in the form $A(x + B)^2 + C$, where A, B and C are integers,

(a) find the value of A, the value of B and the value of C

(3)

(b) Hence, or otherwise, find

(i) the value of x for which $\frac{1}{f(x)}$ is a maximum

(ii) the maximum value of $\frac{1}{f(x)}$

(2)

Question 2 continued

(Total for Question 2 is 5 marks)