5 $f(x) = ax^3 + 5bx^2 + 8ax - 4b$ where a and b are integers

Given that

$(x + 2)$ is a factor of $f(x)$

and that

when $f(x)$ is divided by $(x + 3)$ the remainder is 21

(a) show that $a = 2$ and find the value of b

(5)

(b) Use algebra to solve the equation $f(x) = 0$

(4)

Question 5 continued

(Total for Question 5 is 9 marks)