6. $$f(x) = ax^3 + bx^2 + 18x + 9$$

where a and b are constants.

Given that $(x + 3)$ is a factor of $f(x)$

(a) show that

$$-3a + b = 5$$

(2)

Given also that $f'(2) = 14$

(b) find the value of a and the value of b.

(5)