

3.

**In this question you must show all stages of your working.
Solutions relying on calculator technology are not acceptable.**

$$f(x) = 6x^3 - (2a + 5)x^2 + 21x + a$$

where a is a constant.

Given that $(x - 2)$ is a factor of $f(x)$

(a) show that $a = 10$

(2)

(b) Hence solve the equation

$$f(x) = 0$$

(4)

(c) Write down the largest solution of $f(-x) = 0$

(1)