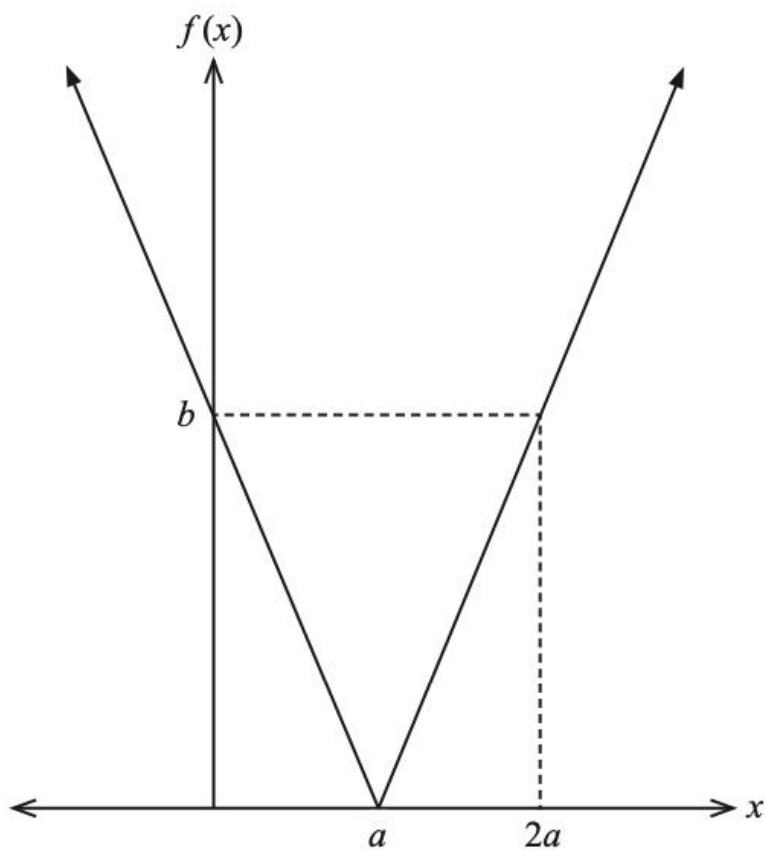**Question 16** (8 marks)

Function f is defined by its graph shown below. The constants $a, b > 0$ where $b > a$.

(a) Determine the defining rule for function $f(x)$ in terms of a, b. (3 marks)

(b)   By using the substitution $u = 2x - a$, determine an expression, in terms of a, b, for the

value of $\displaystyle\int_{\frac{a}{2}}^{a} f(2x - a)\,dx$.   (5 marks)