6 A solid paperweight in the shape of a cuboid has volume 15 cm^3. The paperweight has a rectangular base of length $5x$ cm and width x cm and a height of h cm. The total surface area of the paperweight is A cm^2.

(a) Show that $A = 10x^2 + \frac{36}{x}$

(3)

(b) Find, to 3 significant figures, the value of x for which A is a minimum, justifying that this value of x gives a minimum value of A.

(6)

(c) Find, to 3 significant figures, the minimum value of A.

(2)

Question 6 continued

Question 6 continued

Question 6 continued

(Total for Question 6 is 11 marks)