PMT

5

$$\mathrm{f}(x) = (1 + ax)^n \text{ where } n > 2$$

(a) Write down the expansion of $\mathrm{f}(x)$ in ascending powers of x up to and including the term in x^3
Give each coefficient in terms of n and a

(2)

In the expansion of $\mathrm{f}(x)$, the coefficient of x is 8 and the coefficient of x^2 is 30

(b) Find the value of n and the value of a

(4)

(c) Calculate the coefficient of x^3 in $\mathrm{f}(x)$

(2)

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P 6 6 3 0 9 A 0 1 2 3 6

Question 5 continued

(Total for Question 5 is 8 marks)