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1 A local pottery makes cups. The number of faulty cups made by the pottery in a week follows a Poisson distribution with a mean of 6

In a randomly chosen week, the probability that there will be at least x faulty cups made is 0.1528

(a) Find the value of x

(3)

(b) Use a normal approximation to find the probability that in 6 randomly chosen weeks the total number of faulty cups made is fewer than 32

(4)

A week is called a "*poor week*" if at least x faulty cups are made, where x is the value found in part (a).

(c) Find the probability that in 50 randomly chosen weeks, more than 1 is a "*poor week*".

(4)

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(Total 11 marks)

Q1