1. Minor defects occur at random in planks of wood at a mean rate of 1 per 20 cm

(a) Find the probability that in a randomly chosen 150 cm plank there will be exactly 5 minor defects.

(2)

Planks are sold in packs of 6, with each plank measuring 100 cm in length.

A pack is selected at random.

(b) Find the probability that exactly 2 of these 6 planks will have fewer than 4 minor defects.
You must show your working.

(4)

(c) Using a suitable approximation, find the probability that the total number of minor defects in the 6 planks is less than 28
You must show your working.

(4)

(Total for Question 1 is 10 marks)