6. The weights of bags of carrots, C kg, are such that $C \sim N(1.2, 0.03^2)$

Three bags of carrots are selected at random.

(a) Calculate the probability that their total weight is more than 3.5 kg.

(4)

The weights of bags of potatoes, R kg, are such that $R \sim N(2.3, 0.03^2)$

Two bags of potatoes are selected at random.

(b) Calculate the probability that the difference in their weights is more than 0.05 kg.

(5)

The weights of trays, T kg, are such that $T \sim N(2.5, \sqrt{0.1}^2)$

The random variable G represents the total weight, in kg, of a single tray packed with 10 bags of potatoes where G and T are independent.

(c) Calculate $P(G < 2T + 20)$

(7)

DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA

Question 6 continued

Question 6 continued

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA

Question 6 continued

(Total for Question 6 is 16 marks)