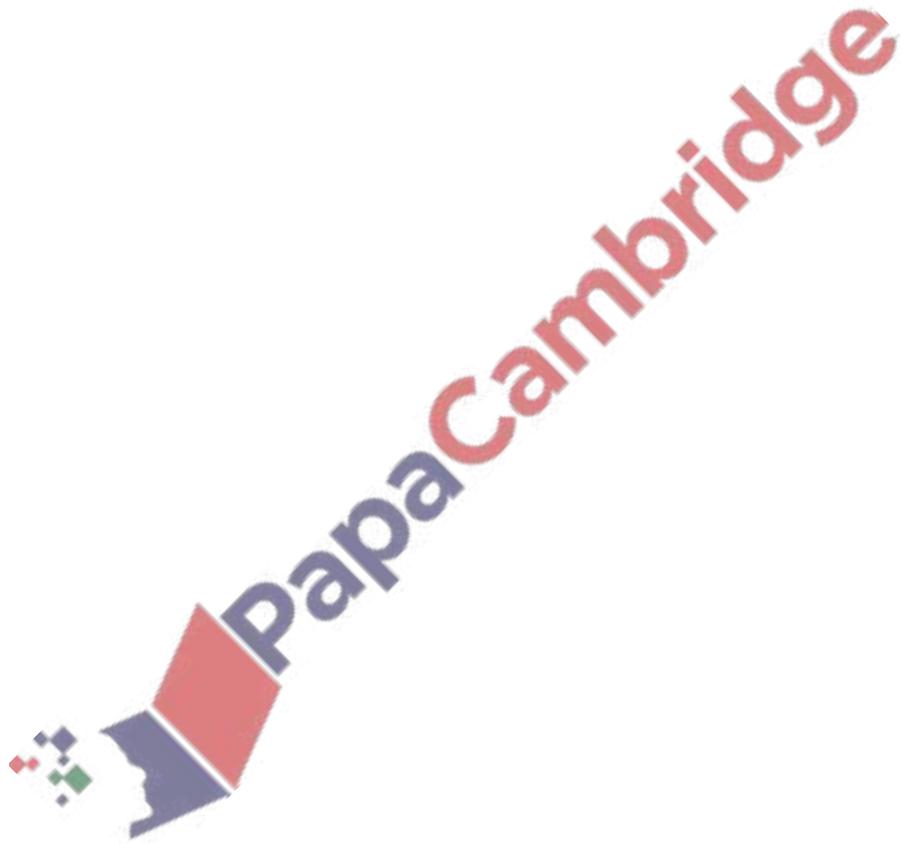


1. March/2023/Paper_9709/62/No.5

The masses, in grams, of large and small packets of Maxwheat cereal have the independent distributions $N(410.0, 3.6^2)$ and $N(206.0, 3.7^2)$ respectively.

- (a) Find the probability that a randomly chosen large packet has a mass that is more than double the mass of a randomly chosen small packet. [5]



The packets are placed in boxes. The boxes are identical in appearance. 60% of the boxes contain exactly 10 randomly chosen large packets. 40% of the boxes contain exactly 20 randomly chosen small packets.

- (b) Find the probability that a randomly chosen box contains packets with a total mass of more than 4080 grams. [6]

