Normal Distribution : Tutorial Sheet 1

1. Assume that the length of injected moulded plastic components are normally distributed with a mean of 100mm and a standard deviation of 4mm. Draw a rough sketch and then calculate corresponding probability for the following measurements occurring on an individual component:

   (a) Between 100 and 104.4mms

   (b) Less than 97 mms

   (c) Between 98.2 and 101.6 mms

   (d) Less than 103.8 mms

2. Assume that Z scores are normally distributed with a mean of Zero and a standard deviation of 1.

   (a) Given $P(0 \leq Z \leq a) = 0.1915$ Find a

   (b) $P(-b \leq Z \leq b) = 0.90$ Find b

   (c) $P(Z \leq c) = 0.3085$ Find c