**DISTRIBUTION FUNCTIONS – HANDOUT 2**

1. A machine produces square plates. The lengths of the sides of the squares are uniformly distributed between 9.9 cm and 10.1 cm. The area of a square plate is denoted by *Y* cm2 .

Find the probability density function of *Y*.

Answer: *g(y)* = , 98.01*y*  102.01 ; *g(y)* = 0, otherwise.

2. The amount of flour used per day by a bakery is a random variable *X* that has an exponential distribution with mean equal to 4 tons. The cost of the flour is proportional to *Y* = 3*X* + 1.

(a) Find the probability density function for *Y*.

(b) Use the answer in (a) to find E(*Y*).

1. OCR Question



1. Past year - June2006

