

## MA2224 Quiz 2

- (1) Let  $X$  be a random variable with the following probability mass function:

$x$	-3	4	6
$f(x)$	0.3	0.2	0.5

Find:

- (a) The mean and the variance of  $X$ .
  - (b) The mean and the variance of  $Y = 20 - 4X$ .
- (2) Suppose that the distribution of  $X$  is found to be in the form  $f(x) = C(x-1)^2$  for  $x$  in the interval  $[0, 3]$ .
- (a) Determine the constant  $C$  which makes  $f$  a probability density function.
  - (b) Find  $F(x)$ , the cumulation distribution function of  $X$ .
  - (c) Calculate  $E(X)$ , the expected value of  $X$ .