



QUIZ 4

NAME	
COURSE CODE	DUM 2413 STATISTICS AND PROBABILITY
DURATION	10 MINUTES

Given that $P(Y = y) = \frac{y^2 + 3y}{100}$ for $y = 1, 2, 3, 4, 5$.

- (i) Based on given information, complete the table below.

y	1	2	3	4	5
$P(Y = y)$					

Then, show that $P(Y = y)$ is a probability function of Y .

- (ii) Based on table in (i), find
- $P(Y = 4)$
 - $P(2 < Y < 4)$
 - Probability of Y at most 3.



ANSWERS:

(i)

y	1	2	3	4	5
$P(Y = y)$	0.04	0.10	0.18	0.28	0.40

Since $\sum_{y=1}^5 P(Y = y) = P(Y = 1) + P(Y = 2) + P(Y = 3) + P(Y = 4) + P(Y = 5) = 1$,

therefore $P(Y = y)$ is the probability function of Y .

(ii)

(a) $P(Y = 4) = 0.28$.

(b) $P(2 < Y < 4) = P(Y = 3) = 0.18$.

(c) $P(Y \leq 3) = P(X = 1) + P(X = 2) + P(X = 3)$

$$P(Y \leq 3) = 0.04 + 0.10 + 0.18$$

$$P(Y \leq 3) = 0.32.$$

