
QUESTION 4 (25 MARKS)**Question 4 (a)**

Trials are independent of each other.
Probability of success is the same each time.

Question 4 (b)

(i) $P(\text{Success}) = 0.6, P(\text{Failure}) = 0.4$

$$P(X = 4) = {}^6C_4(0.6)^4(0.4)^2 = 0.311$$

BERNOULLI TRIALS

$p = P(\text{Success}), q = P(\text{Failure})$

$P(r \text{ successes}) = {}^nC_r p^r q^{n-r}$

- (ii) She has one successful free throw in the first four free throws, followed by a successful free shot on the fifth free throw.

$$P = [{}^4C_1(0.6)^1(0.4)^3] \times (0.6) = 0.092$$
