Answer Key to the Question Bank

1. a. $\frac{1}{2}$ b. true c. false d. true e. $P(A) \times P(B|A)$ f. $P(A) + P(B) - P(A \cap B)$

2. a. ii b. ii c. ii d. iv

3. a. Two events are said to be independent if they cannot affect or influence each other. For example, if a die is thrown and a coin is tossed, the two events and the outcomes from them are independent.

b. Outcomes are said to be mutually exclusive if any of those outcomes prevents the others from happening. For example, if a die is thrown, the outcomes 1, 2, 3, 4, 5, 6 are mutually exclusive.

c. (1,1), (1,2), (1,3), ..., (1,6), (2,1), (2,2), ... (2,6), (3,1), ... (3,6), (4,1) ... (4,6), (5,1) ... (5,6), (6,1), ... (6,6)

d. $\frac{6}{36} = \frac{1}{6}$ e. $\frac{10}{36} = \frac{5}{18}$ f. 'E', $\frac{3}{10}$ g. $\frac{1}{4}$ or 0.25 h. i. $\frac{1}{3}$ ii. $\frac{1}{2}$ i. i. $\frac{1}{4}$ ii. $\frac{5}{22}$

j. i. $\frac{5}{9}$ ii. $\frac{5}{18}$ iii. $\frac{1}{6}$