

A2.S.15: Binomial Probability 6: Know and apply the binomial probability formula to events involving the terms exactly, at least, and at most

- 1 In tossing a fair die three times, what is the probability of getting exactly 2 sixes?
- 2 The probability of winning a game is $\frac{3}{5}$ and the probability of losing a game is $\frac{2}{5}$. If the game is played three times, what is the probability of winning *exactly* two games?
- 3 The probability that Caitlin gets an A on a mathematics test is $\frac{3}{4}$. Find the probability that she earns an A on *exactly* two of three mathematics tests.
- 4 The probability of Rick getting an A on any test is $\frac{2}{3}$. Find the probability that he earns an A on *exactly* 3 of 4 tests.
- 5 If the probability of a team winning any game is $\frac{2}{3}$, find the probability that the team would win *exactly* four games in a five-game series.
- 6 When a biased coin is tossed, the probability of getting a head is $\frac{2}{3}$. If the coin is tossed three times, what is the probability of getting no heads?
- 7 The probability that Team *A* will beat Team *B* in a sporting event is $\frac{2}{3}$. What is the probability that team *B* will win all three games of a three-game series?
- 8 When Nick plays cards with Lisa, the probability that Nick will win is $\frac{6}{10}$. If they play three games of cards and there are no ties, what is the probability that Lisa will win all three games?

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Answer Section

1 ANS:

$$\frac{5}{72}$$

PTS: 2

REF: 018612siii

2 ANS:

$$\frac{54}{125}$$

PTS: 2

REF: 080110siii

3 ANS:

$$\frac{27}{64}$$

PTS: 2

REF: 080311siii

4 ANS:

$$\frac{32}{81}$$

PTS: 2

REF: 060113siii

5 ANS:

$$\frac{80}{243}$$

PTS: 2

REF: 010110siii

6 ANS:

$$\frac{1}{27}$$

PTS: 2

REF: 088913siii

7 ANS:

$$\frac{1}{27}$$

PTS: 2

REF: 018913siii

8 ANS:

$$\frac{64}{1000}$$

PTS: 2

REF: 069513siii