

Probability

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77 The chance of a fisherman catching a legal length fish is 4 in 5. If three fish are caught at random, what is the probability that exactly one is of legal length?

(A) $\frac{4}{125}$

(B) $\frac{12}{125}$

(C) $\frac{16}{125}$

(D) $\frac{48}{125}$

78 Two-digit numbers are formed from the digits 2, 3, 4, 6 with no repetition of digits allowed. A two-digit number is then selected at random. What is the probability that the number is prime?

(A) $\frac{1}{12}$

(B) $\frac{1}{8}$

(C) $\frac{1}{6}$

(D) $\frac{5}{12}$

79 Six cards numbered one, two, three, four, five and six are placed in a pile. A card is selected from the pile. Its number is noted and replaced in the pile. A second card is then chosen and its number noted. What is the probability that both cards are a three?

(A) $\frac{1}{12}$

(B) $\frac{1}{4}$

(C) $\frac{1}{6}$

(D) $\frac{1}{36}$

80 A bag contains 11 balls of which 4 are blue and the rest are white. One ball is selected at random and removed from the bag. Another ball is selected and removed from the bag. What is the probability that both balls are white?

(A) $\frac{42}{110}$

(B) $\frac{49}{110}$

(C) $\frac{42}{122}$

(D) $\frac{49}{122}$

81 Sixty tickets are sold in a raffle. There are two prizes. Lincoln buys 5 tickets. Which expression gives the probability that Lincoln wins both prizes?

(A) $\frac{5}{60} + \frac{4}{59}$

(B) $\frac{5}{60} + \frac{4}{60}$

(C) $\frac{5}{60} \times \frac{4}{59}$

(D) $\frac{5}{60} \times \frac{4}{60}$

82 In a school the student population is 45% male and 55% female. Two students are selected at random to represent their school. What is the probability that both are female?

(A) 0.2025

(B) 0.2475

(C) 0.3025

(D) 0.5555

83 Darcy and Leo play poker. On each hand played, Darcy has a 60% chance of winning. If they play two hands, what is the probability that Darcy wins both hands?

(A) 16%

(B) 36%

(C) 40%

(D) 60%

84 Paige owns three brown caps and four red caps. She selects one of the caps for herself at random and another cap at random for two friends. What is the probability of the three caps being red?

(A) $\frac{4}{35}$

(B) $\frac{64}{343}$

(C) $\frac{4}{7}$

(D) $\frac{31}{35}$

85 Sam and Ashton play a tennis match against each other. The probability in any set that Sam wins is $\frac{3}{5}$. The first player to win 2 sets wins the match. What is the probability that the game ends at the second set?

(A) $\frac{6}{25}$

(B) $\frac{12}{25}$

(C) $\frac{13}{25}$

(D) $\frac{19}{25}$

86 A cupboard contains 7 white mugs and 4 black mugs. A mug is drawn at random from the cupboard, and then returned to the cupboard after its colour has been noted. A second mug is then drawn at random from the cupboard. What is the probability both mugs are the same colour?

(A) $\frac{28}{121}$

(B) $\frac{49}{121}$

(C) $\frac{56}{121}$

(D) $\frac{65}{121}$

87 A game is played in which two coloured dice are thrown once. The six faces of the red die are numbered 3, 5, 7, 8, 9 and 11. The six faces of the white die are numbered 1, 2, 4, 6, 10 and 12. The player wins if the number on the white die is larger than the number on the red die. What is the probability that the player wins once in two successive games?

(A) $\frac{7}{18}$

(B) $\frac{11}{18}$

(C) $\frac{77}{162}$

(D) $\frac{77}{324}$

