Set up using the binomial formula, then find the probability. Round to three significant digits.

1.   You guess on a true/false test. Find P(3 correct in 5 guesses).

2.   Find the probability of tossing a fair coin 20 times and getting 2 heads.

3.   Find the probability of tossing a fair coin 20 times and getting 12 heads.

4.   There are 40 questions for which there are 4 choices for each. Find the probability of randomly guessing 2 correct answers out of it.

5.   There are 40 questions for which there are 4 choices for each. Find the probability of randomly guessing 20 correct answers out of it.

6.   Find the probability of 3 successes in 6 trials, if the probability of success is 0.4.

7.   Find the probability of 6 successes in 12 trials, if the probability of success is 0.2.

8.   Find the probability of having not more than 2 successes in 4 trials, if the probability of success is 0.4.

9.   Find the probability of having not more than 5 successes in 10 trials, if the probability of success is 0.75.

10.   In a school exam, one student out of 80 fails. Determine the probability that out of 20 students picked at random, exactly 1 student fails.

11.   A cat gives birth to a litter of 9 kittens. Find the probability of having at least 6 female kittens assuming that the probability of a kitten being female is 0.7.

12.   The probability of Andrew's team winning any given game in a 5-game series is 0.3. What is the probability that Andrew's team will win exactly 2 games in the series?

13.   A fair coin is tossed 5 times. What is the probability that it lands tails up exactly 3 times?

14.   The Hiking Club plans to go camping in a State park where the probability of rain on any given day is 0.7. Find the probability that it will rain on exactly 3 of the 7 days they are there?

15.   Gordon tosses a fair die six times. What is the probability that he will toss exactly two 5's?

16.   The probability that Kyla will score above a 90 on a mathematics test is 4/5. What is the probability that she will score above a 90 on three of the four tests this quarter?

Answers

1. .313
2. .000181
3. .120
4. .000872
5. .000398
6. .276
7. .0155
8. .821
9. .0781
10. .197
11. .730
12. .309
13. .313
14. .0972
15. .234
16. .410