

LESSON

11-6

Practice B***Binomial Distributions***

Use the Binomial Theorem to expand each binomial.

1. $(x + y)^3$

2. $(2x + y)^4$

3. $(m + 3n)^3$

4. $(p + q)^5$

Solve.

5. Of the new cars in a car dealer's lot, 1 in 6 are white. Today, 4 cars were sold.

a. What is the probability that 3 of the cars sold were white?

b. What is the probability that at least 2 of the cars sold were white?

6. At a small college, $\frac{1}{3}$ of all of the students are vegetarians. There are 5 students in line at the cafeteria.

a. What is the probability that all 5 students are vegetarians?

b. What is the probability that just 1 of the students is a vegetarian?

7. Ellen plays 8 hands of a card game with her friends. She has a 1 in 3 chance of winning each hand. What is the probability that she will win exactly half of the hands played?

8. In a lottery, each ticket buyer has a 1 in 10 chance of winning a prize. If Chip buys 10 tickets, what is the probability that he will win at least 1 prize?
