

1. Find the middle term of $(x^2 - 2y)^8$.

2. Find the term containing x^3 in $(5x - 3y)^9$.

3. Expand $(x^2 - \frac{x}{2})^6$.

4. A jar contains 3 red, 4 green, and 5 blue marbles. Three marbles are selected at random, at the same time. Find the probability that:
(Hint: combinations!)

a) all three are green

b) exactly 1 is red

c) at least 2 are blue

5. Fifteen dogs entered a dog show. In how many ways can 1st, 2nd, and 3rd places be awarded?

6. There are 9 pizza toppings to choose from. How many pizzas with 1, 2, or 3 toppings are possible?