Compound Events

Probability Word Problems - Dependent & Independent Events

Name: _____   **Date:** _____

(1)   An animal cage is holding 5 black cats and 4 white cats. None of them want to be in there. The cage door is opened slightly and two cats escape. What is the probability that the escaping cats are both white?

(2)   You are about to attack a dragon in a role playing game. You will throw two dice, one numbered 1 to 8 and the other with the letters A through G. What is the probability that you will roll a value less than 4 and the letter D?

(3)   A bowl of fruit is on the table. It contains 2 apples, 6 oranges, and 5 bananas. James and Sean come home from school and randomly grab one fruit each. What is the probability that both grab oranges?

(4)   A shuffled deck of cards is placed face-down on the table. It contains 5 hearts, 2 diamonds, 8 clubs and 3 spades. What is the probability that the top two cards are one of the spades followed by one of the diamonds?

(1) An animal cage is holding 5 black cats and 4 white cats. None of them want to be in there. The cage door is opened slightly and two cats escape. What is the probability that the escaping cats are both white?

$$\frac{4}{9} \times \frac{3}{8} = \frac{12}{72} = \frac{1}{6}$$

(2) You are about to attack a dragon in a role playing game. You will throw two dice, one numbered 1 to 8 and the other with the letters A through G. What is the probability that you will roll a value less than 4 and the letter D?

$$\frac{3}{8} \times \frac{1}{6} = \frac{3}{48} = \frac{1}{16}$$

(3) A bowl of fruit is on the table. It contains 2 apples, 6 oranges, and 5 bananas. James and Sean come home from school and randomly grab one fruit each. What is the probability that both grab oranges?

$$\frac{6}{13} \times \frac{5}{12} = \frac{30}{156} = \frac{5}{26}$$

(4) A shuffled deck of cards is placed face-down on the table. It contains 5 hearts, 2 diamonds, 8 clubs and 3 spades. What is the probability that the top two cards are one of the spades followed by one of the diamonds?

$$\frac{3}{18} \times \frac{2}{17} = \frac{6}{306} = \frac{1}{51}$$