

Compound Events

Probability Word Problems - Dependent & Independent Events

Name: _____ Date: _____

- (1) A box contains nine purple marbles, seven orange marbles and ten green marbles. If you pick two without looking, what is the probability that one will be orange and the other will be green?
- (2) A shuffled deck of cards is placed face-down on the table. It contains two hearts, five diamonds, three clubs and seven spades. What is the probability that the top two cards are both spades?
- (3) You accidentally dropped a coin from the top of eleven stairs. What is the probability that it will land on the fifth step, tails up?
- (4) The names of eleven boys and seven girls from your class are put into a hat. What is the probability that the first two names chosen will both be girls?
- (5) The computer repairman is given eight computers to fix. He knows that among them are three bad video cards and four failed hard drives. What is the probability that the first computer he tries has both problems?
- (6) Your drawer contains seven red socks and nine blue socks. It's too dark to see which are which, but you grab two anyway. What is the probability that both socks are red?

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ANSWER KEY

- (1) A box contains nine purple marbles, seven orange marbles and ten green marbles. If you pick two without looking, what is the probability that one will be orange and the other will be green?

$$2 \times \frac{7}{26} \times \frac{10}{25} = \frac{140}{650} = \frac{14}{65}$$

- (3) You accidentally dropped a coin from the top of eleven stairs. What is the probability that it will land on the fifth step, tails up?

$$\frac{1}{11} \times \frac{1}{2} = \frac{1}{22}$$

- (5) The computer repairman is given eight computers to fix. He knows that among them are three bad video cards and four failed hard drives. What is the probability that the first computer he tries has both problems?

$$\frac{3}{8} \times \frac{4}{8} = \frac{12}{64} = \frac{3}{16}$$

- (2) A shuffled deck of cards is placed face-down on the table. It contains two hearts, five diamonds, three clubs and seven spades. What is the probability that the top two cards are both spades?

$$\frac{7}{17} \times \frac{6}{16} = \frac{42}{272} = \frac{21}{136}$$

- (4) The names of eleven boys and seven girls from your class are put into a hat. What is the probability that the first two names chosen will both be girls?

$$\frac{7}{18} \times \frac{6}{17} = \frac{42}{306} = \frac{7}{51}$$

- (6) Your drawer contains seven red socks and nine blue socks. It's too dark to see which are which, but you grab two anyway. What is the probability that both socks are red?

$$\frac{7}{16} \times \frac{6}{15} = \frac{42}{240} = \frac{7}{40}$$