Bellwork Alg 2 Thursday, June 6, 2019

1. On a key pad are the digits 0 to 9. You randomly press one of the digits then you randomly press another one. Find this probability as a percent to the nearest tenth.

a) P(Odd and Even)= b) P(Multiple of 3 and Factor of 8)=

2. At an amusement park there is a game where you have to throw a ball at a target and if you hit it you win a prize. You pay $2 and get two throws. In a basket are the following balls to choose from: 12 red, 7 green, and 11 orange. You randomly grab a ball and throw it at the target. You then randomly grab another ball and throw it at the target. Find each probability as a fraction without reducing.

a) P(Green and Green)= b) P(Red and Orange)=

3. The probability that I wear a green shirt is $\frac{3}{8}$, the probability that I wear black pants is $\frac{2}{7}$, and the probability that I wear blue pants is $\frac{5}{12}$. Find each probability as a percent to the nearest tenth.

a). The probability that I wear a green shirt or I wear black pants to work today.

P(green shirt or black pants) =

b) The probability that I wear a pair of black pants or a pair of blue pants to work tomorrow.

P(black pants or blue pants) =

4. You deal the first four cards on the top of the deck to the first four people at the table. Find the probability of dealing four aces. Give your answer as a percent to the nearest hundredth.

P(four aces)=

5. You are landscaping your yard and want to plant some trees and bushes. You go to the local nursery and have the following to choose from: 8 different kinds of trees and 7 different kinds of bushes.

a) In the back yard you want to plant 2 different kinds of trees and 4 different kinds of bushes. How many ways can you landscape the back yard?

b) For the front yard you only have enough room for one tree or 3 bushes. How many ways can you landscape the front yard?

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ANSWERS

1. On a key pad are the digits 0 to 9. You randomly press one of the digits then you randomly press another one. Find this probability as a percent to the nearest tenth.

a) P(Odd and Even)=

$\frac{5}{10} \cdot \frac{5}{10} = \frac{25}{100} = 25\%$

b) P(Multiple of 3 and Factor of 8)=

3,6,9 and 1,2,4,8

$\frac{3}{10} \cdot \frac{4}{10} = \frac{12}{100} = 12\%$

2. At an amusement park there is a game where you have to throw a ball at a target and if you hit it you win a prize. You pay $2 and get two throws. In a basket are the following balls to choose from: 12 red, 7 green, and 11 orange. You randomly grab a ball and throw it at the target. You then randomly grab another ball and throw it at the target. Find each probability as a fraction without reducing.

30 TOTAL

a) P(Green and Green)=

$\frac{7}{30} \cdot \frac{6}{29} = \frac{42}{870}$

b) P(Red and Orange)=

$\frac{12}{30} \cdot \frac{11}{29} = \frac{132}{870}$

3. The probability that I wear a green shirt is $\frac{3}{8}$, the probability that I wear black pants is $\frac{2}{7}$, and the probability that I wear blue pants is $\frac{5}{12}$. Find each probability as a percent to the nearest tenth.

a). The probability that I wear a green shirt or I wear black pants to work today.

P(green shirt or black pants) = $\frac{3}{8} + \frac{2}{7} - \frac{3}{8} \cdot \frac{2}{7} = 55.4\%$

NOT MUTUALLY EXCLUSIVE

b) The probability that I wear a pair of black pants or a pair of blue pants to work tomorrow.

P(black pants or blue pants) = $\frac{2}{7} + \frac{5}{12} = 70.2\%$

MUTUALLY EXCLUSIVE

4. You deal the first four cards on the top of the deck to the first four people at the table. Find the probability of dealing four aces. Give your answer as a percent to the nearest hundredth.

P(four aces)= $\frac{4}{52} \cdot \frac{3}{51} \cdot \frac{2}{50} \cdot \frac{1}{49} =$ $3.69 \times 10^{-4}\%$

$\rightarrow .000369\%$

5. You are landscaping your yard and want to plant some trees and bushes. You go to the local nursery and have the following to choose from: 8 different kinds of trees and 7 different kinds of bushes.

a) In the back yard you want to plant 2 different kinds of trees and 4 different kinds of bushes. How many ways can you landscape the back yard?

TREES BUSHES

$_8C_2 \cdot {}_7C_4 = 28 \cdot 35 = 980$

b) For the front yard you only have enough room for one tree or 3 bushes. How many ways can you landscape the front yard?

TREES BUSHES

$_8C_1 + {}_7C_3 = 8 + 35 = 43$