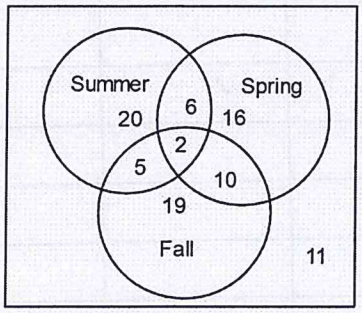
Bellwork Alg 2B Thursday, May 3, 2018

1. Use the Venn Diagram to find each probability as a fraction without reducing.



a) P(Summer or Spring)

b) P(Fall and Spring but not Summer)

c) P(Not Fall)

2. In a drawer of your desk at home you have the following colored envelopes: 8 Green, 6 Yellow, 9, White. You are sending out invitations to your friends. You randomly take an envelope and put a letter in it, then randomly take another, etc. Find each probability as a fraction without reducing.

a) P(Green and White)

b) P(Yellow and White and Yellow)

3. You have to reset your password on the access to your account. It must be 8 characters long. Five must be a letter and three must be a number (0 to 9). Capital letters and lower case letters are considered the same. Find the number of passwords possible if the following conditions must be met.

a) Nothing can repeat.

b) Only numbers can repeat.

4. The weights of cans of corn are normally distributed and have a mean of 15.5 ounces with a standard deviation of 0.5 ounces.

a) Find the range of weights that contain 95% of the cans.

b) What percent of cans weigh between 15 and 17 ounces?

c) What percent of cans weigh less than 16 ounces?

d) If you randomly take a can of corn what is the probability that it weighs more than 14 ounces?

e) If a shipment contains 500 cans of corn, how many of them will weigh more than 16.5 ounces?

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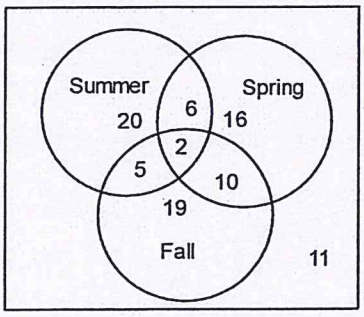
ANSWERS

1. Use the Venn Diagram to find each probability as a fraction without reducing.



TOTAL IN VENN DIAGRAM = 89

a) P(Summer or Spring) $= \frac{59}{89}$

b) P(Fall and Spring but not Summer) $\frac{10}{89}$

c) P(Not Fall) $\frac{53}{89}$

2. In a drawer of your desk at home you have the following colored envelopes: 8 Green, 6 Yellow, 9, White. You are sending out invitations to your friends. You randomly take an envelope and put a letter in it, then randomly take another, etc. Find each probability as a fraction without reducing.

23 TOTAL DEPENDENT EVENTS

a) P(Green and White) $\frac{8}{23} \cdot \frac{9}{22} = \frac{72}{506}$

b) P(Yellow and White and Yellow) $\frac{6}{23} \cdot \frac{9}{22} \cdot \frac{5}{21} = \frac{270}{10,626}$

3. You have to reset your password on the access to your account. It must be 8 characters long. Five must be a letter and three must be a number (0 to 9). Capital letters and lower case letters are considered the same. Find the number of passwords possible if the following conditions must be met.

a) Nothing can repeat.

$26 \cdot 25 \cdot 24 \cdot 23 \cdot 22 \cdot 10 \cdot 9 \cdot 8$

$= 5,683,392,000$

b) Only numbers can repeat.

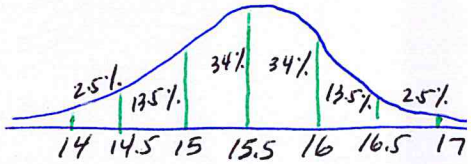
$26 \cdot 25 \cdot 24 \cdot 23 \cdot 22 \cdot 10 \cdot 10 \cdot 10$

$= 7,893,600,000$

4. The weights of cans of corn are normally distributed and have a mean of 15.5 ounces with a standard deviation of 0.5 ounces.

a) Find the range of weights that contain 95% of the cans.

14.5 oz TO 16.5 oz



b) What percent of cans weigh between 15 and 17 ounces? 84%

c) What percent of cans weigh less than 16 ounces? 84%

d) If you randomly take a can of corn what is the probability that it weighs more than 14 ounces? 100%

e) If a shipment contains 500 cans of corn, how many of them will weigh more than 16.5 ounces?

2.5% weigh more than 16.5 ounces

2.5% of 500 = (.025)(500)

= 12.5

≈ 13 cans