Bellwork Alg 2 Friday, June 7, 2019

1. You go into the back yard and shoot some arrows at a target. The package of arrows has 3 with red feathers, 8 with blue feathers, and 2 with green feathers. You pull out an arrow at random and shoot it at the target. You missed the bulls-eye so you grab another arrow at random and shoot it, etc. Find each probability as a fraction without reducing.

a) P(green arrow and blue arrow)= b) P(red arrow and red arrow and green arrow)=

2. At your work a regular shift is 9 hrs and a double shift is 18 hrs. The business is open 18 hours each day. On a given day the probably you work a regular shift is $\frac{4}{7}$ and the probability you work a double shift is $\frac{1}{6}$. Find each probability as a percent to the nearest tenth.

a) Find the probability that tomorrow you will work a regular shift or you will work a double shift.

P(regular shift or double shift) =

b) Find the probability this week you will work a regular shift or you will work a double shift.

P(regular shift or double shift) =

3. Find the Mean, Median, and Mode of this set of data to the nearest hundredth.

$65, 84, 77, 53, 55, 59, 56, 43, 84, 73, 72, 55, 43, 56, 42, 90, 66, 53, 55, 38$

$\bar{x} =$ *Median* = *Mode* :

4. Create a set of 8 numbers with the following statistics:

$\bar{x} = 12$ *Median* = 9 *Mode* : 5 & 15

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ANSWERS

1. You go into the back yard and shoot some arrows at a target. The package of arrows has 3 with red feathers, 8 with blue feathers, and 2 with green feathers. You pull out an arrow at random and shoot it at the target. You missed the bulls-eye so you grab another arrow at random and shoot it, etc. Find each probability as a fraction without reducing.

13 TOTAL ARROWS

a) P(green arrow and blue arrow)=

$\frac{2}{13} \cdot \frac{8}{12} = \frac{16}{156}$

b) P(red arrow and red arrow and green arrow)=

$\frac{3}{13} \cdot \frac{2}{12} \cdot \frac{2}{11} = \frac{12}{1716}$

2. At your work a regular shift is 9 hrs and a double shift is 18 hrs. The business is open 18 hours each day. On a given day the probably you work a regular shift is $\frac{4}{7}$ and the probability you work a double shift is $\frac{1}{6}$. Find each probability as a percent to the nearest tenth.

a) Find the probability that tomorrow you will work a regular shift or you will work a double shift.

P(regular shift or double shift) = $\frac{4}{7} + \frac{1}{6} = 73.8\%$

MUTUALLY EXCLUSIVE

b) Find the probability this week you will work a regular shift or you will work a double shift.

P(regular shift or double shift) = $\frac{4}{7} + \frac{1}{6} - \frac{4}{7} \cdot \frac{1}{6} = 64.3\%$

NOT MUTUALLY EXCLUSIVE

3. Find the Mean, Median, and Mode of this set of data to the nearest hundredth.

65, 84, 77, 53, 55, 59, 56, 43, 84, 73, 72, 55, 43, 56, 42, 90, 66, 53, 55, 38

$\bar{x} = 60.95$ *Median* = 56 *Mode* : 55

43 - 2
53 - 2
55 - 3
56 - 2
84 - 2

4. Create a set of 8 numbers with the following statistics:

$\bar{x} = 12$ *Median* = 9 *Mode* : 5 & 15

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MANY POSSIBLE ANSWERS

- sum of 8 #s must be 96
- middle 2 #s must have a mean of 9
- must be at least 2 5's and 2 15's (equal # of each)