

If there are 6 red and 5 blue and 4 green in the box and we draw 3 balls with replacement, then

8) Find the probability that all are red (answer in % with 2 decimal) 8) _____

9) Find the probability that none is red (answer in % with 2 decimal) 9) _____

If there are 6 men and 8 women in a group and two are selected without replacement, then

10) Find the probability that both are men (answer in % with 2 decimal) 10) _____

11) Find the probability that at least one is man (answer in % with 2 decimal) 11) _____

12) Find the probability that at most one is man (answer in % with 2 decimal) 12) _____

13) Find the probability that one of each gender is selected (answer in % with 2 decimal) 13) _____

14) if a quiz has 5 multiple choice questions each one with 4 answers, if you guess all of them, then find the probability that all are guessed correctly. 14) _____

Three students take equivalent tests of statistics and after the test their papers were graded. Find the z-score for each and decide which one has the highest relative score?

15) John got a score of 89 on a test with a mean of 75 and standard deviation of 6. 15) _____

16) Jose got a score of 92 on a test with a mean of 79 and standard deviation of 7. 16) _____

17) John got a score of 68 on a test with a mean of 62 and standard deviation of 5. 17) _____

18) IQ scores have a mean of 100 and a standard deviation of 16. Albert Einstein reportedly had an IQ of 160. What is the z-score for his IQ and how unusual is it? 18) _____

If there are 6 men and 8 women in a group and two are selected without replacement, then

10) Find the probability that both are men (answer in % with 2 decimal) 10) $\frac{6}{14} \times \frac{5}{13} = 16.48\%$

11) Find the probability that at least one is man (answer in % with 2 decimal) 11) 69.22%

$$\begin{array}{ccc} MW & WM & MM \\ \frac{6}{14} \times \frac{8}{13} & + \frac{8}{14} \times \frac{6}{13} & + \frac{6}{14} \times \frac{5}{13} = 69.22\%, \end{array}$$

12) Find the probability that at most one is man (answer in % with 2 decimal) 12) 83.51%

$$\begin{array}{ccc} MW & WM & WW \\ \frac{6}{14} \times \frac{8}{13} & + \frac{8}{14} \times \frac{6}{13} & + \frac{8}{14} \times \frac{7}{13} = 83.51\%, \end{array}$$

13) Find the probability that one of each gender is selected (answer in % with 2 decimal) 13) 52.74%

$$\begin{array}{cc} MW & WM \\ \frac{6}{14} \times \frac{8}{13} & + \frac{8}{14} \times \frac{6}{13} = 52.74\%, \end{array}$$

14) if a quiz has 5 multiple choice questions each one with 4 answers, if you guess all of them, then find the probability that all are guessed correctly. 14) 0.00097%

$$\frac{1}{4} \frac{1}{4} \frac{1}{4} \frac{1}{4} \frac{1}{4} = 0.000097 \quad \text{A very rare chance to happen!!!!}$$

Three students take equivalent tests of statistics and after the test their papers were graded. Find the z-score for each and decide which one has the highest relative score?

15) John got a score of 89 on a test with a mean of 75 and standard deviation of 6. 15) $\frac{89-75}{6} = 2.33$

16) Jose got a score of 92 on a test with a mean of 79 and standard deviation of 7. 16) $\frac{92-79}{7} = 1.86$

17) Joe got a score of 68 on a test with a mean of 62 and standard deviation of 5. 17) $\frac{68-62}{5} = 1.2$

John has the highest Z score. He did relatively better in his class than Jose and Joe.

18) IQ scores have a mean of 100 and a standard deviation of 16. Albert Einstein reportedly had an IQ of 160. What is the z-score for his IQ and how unusual is it? 18) 3.75 Very Unusual