DSML Module Test Reattempt: Data Analytics and Visualisation - Probability and Stats – Test 1

Percentage of basketball players
A school has 600 students. Among them, 40% like playing basketball, and among those who like playing basketball, 75% like playing indoors. Among those who don't like playing basketball, 20% still like playing indoors. What percentage of students like playing indoors?

22%

32%

42%

52%

62%

An online store has two warehouses in a city.

40% of the orders are fulfilled by Warehouse A, and the other 60% by Warehouse B. It is known that the error rate for Warehouse A is 1% and for Warehouse B is 2%.

An angry customer who got the wrong order calls the support. What is the probability that his order was shipped from Warehouse A?

0.1

0.125

0.15

0.25

0.5

Unbiased coin toss
You are tossing an unbiased coin 8 times, what is the probability of obtaining at most 2 heads?

0.1847

0.1445

0.3210

0.2752

Rohit's score
The marks obtained on a science midterm exam at Holy Cross School are roughly symmetric with a mean
μ
and standard deviation
σ
.

Rohit scored 80 marks in his exam.

Find the z-score for Rohit’s exam marks.

- 2.55
- 2.22
- **3.33**
- 5.22

Defective screws
A machine that manufactures screws is known to produce 10% screws as defective pieces.

In a random sample of 20 screws, what is the probability that there are exactly 5 defective screws?

- 0.2321
- 0.3418
- **0.0319**
- 0.0558

100 Tosses
In a coin toss experiment, we flip a biased coin 100 times.

The probability of getting a head on each flip is 0.3.

What is the probability of getting exactly 25 heads?

- 0.0588
- 0.0505

0.0495

0.0199

otal Prob Red ball
Suppose there are three boxes: Box A, Box B, and Box C.

The probability of selecting Box A is 0.4, Box B is 0.3, and Box C is 0.3.

Each box contains a different number of balls:

Box A contains 5 red balls and 3 blue balls.
Box B contains 4 red balls and 6 blue balls.
Box C contains 6 red balls and 4 blue balls.
If a box is randomly chosen, and then a ball is randomly drawn from the chosen box, what is the probability of selecting a red ball?

0.4

0.5

0.55

0.6

Weight Z score
The average weight of students in a class is 60 kg with a standard deviation of 5 kg.

If a student weighs 65 kg, what is their z-score?

-0.2

1

0.2

-1

is it a spam mail
It is observed that 50% of mails received are spam. There is a software that filters spam mail before it reaches the inbox.

Its chances of tagging a spam mail as spam is 99% whereas it’s chances of tagging a non-spam mail as spam mail is 5%.

If a certain mail is tagged as spam, find the probability that it is not a spam mail.

10.2%

4.8%

12.0%

9.8%

Counting Possible Outfits
In a drawer, there are 3 different shirts, 4 different pants, and 2 different pairs of socks. If one article of clothing is randomly selected from each category without looking, How many total possible outfits can be formed?

9

12

24

29