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STRATEGY FOR LEARNER ATTAINMENT

TOPIC REVISION_BROBABILITY

JUNE 2017_EASTERN CAPE

QUESTION 10

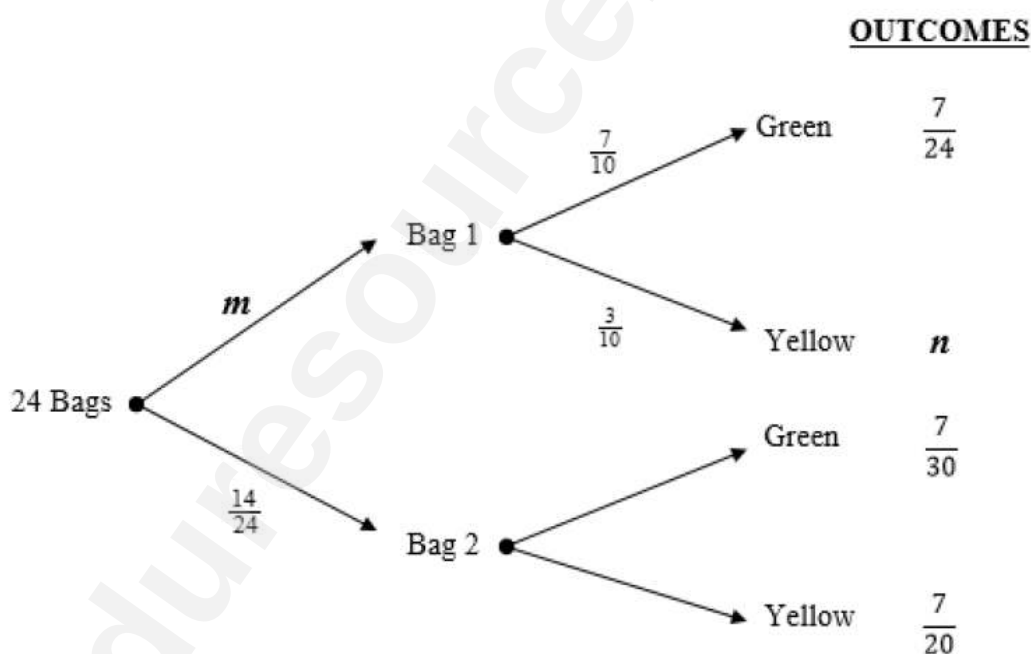
- 10.1 Let A and B be two events in a sample space. Suppose that the $P(A) = 0,4$; $P(B) = k$ and $P(A \text{ or } B) = 0,7$. Determine:

10.1.1 $P(A \text{ or } B)'$ (1)

10.1.2 The value of k , for which A and B are mutually exclusive events. (2)

10.1.3 The value of k , for which A and B are independent events. (4)

- 10.2 There are 24 bags of marbles for sale in a shop. In ten of the bags there are 7 green marbles and three yellow marbles. The other bags each have x green marbles and 9 yellow marbles. A bag is chosen at random and a marble is then chosen at random from the bag. The tree diagram below illustrates the process and the outcomes.



10.2.1 Determine the values of m and n . (2)

10.2.2 Determine the value of x . (3)

10.2.3 What is the probability that a marble chosen is green? (2)

[14]

Strategy for Learner Attainment

JUNE 2017_GAUTENG

QUESTION 11

A take-away shop used a sample group of 100 matric learners to research favourite take-away meals. The result is as follows:

- 58 learners like burgers
- 53 learners like pizza
- 38 learners like pasta
- 16 learners like pizza and pasta
- x learners like burgers and pizza, but not pasta
- 18 learners like burgers and pasta
- 10 learners do not eat take-away meals
- 5 learners like burgers, pizza and pasta

- 11.1 Draw a VENN diagram to represent the data. (5)
- 11.2 Determine how many learners like burgers and pizza, but not pasta. (2)
- 11.3 Determine the probability that a learner chosen at random likes only TWO of the take-away meals. (4)

[11]

JUNE 2017_KWAZULU NATAL

NB: Not Assessed

JUNE 2017_LIMPOPO

QUESTION 11

- 11.1 In an experiment it was found that $P(A) = 0,6$; $P(B) = 0,35$ and $P(A \text{ or } B) = 0,75$

Determine :

11.1.1 $P(A \text{ and } B)$ (2)

11.1.2 Whether the events A and B are independent. (3)

11.1.3 Whether A and B are mutually exclusive (1)

- 11.2 A group of 40 learners was interviewed from Sekgosese High School. The following information was collected:

22 registered for Mathematics

18 registered Life Science

14 registered Physical Science

9 takes Mathematics and Life Science

7 takes Mathematics and Physical Sciences

5 takes Life Science and Physical Science

2 takes all 3 subjects

- 11.2.1 Represent the above information in a Venn diagram (8)

- 11.2.2 How many learners are not taking any of the 3 subjects? (1)

- 11.2.3 Determine the probability of selecting a learner who registered for Mathematics and Physical Science but did not register for Life Science (1)

- 11.2.4 Calculate the probability of selecting a learner who registered for at least 2 of the three subjects (1)

[17]

JUNE 2017_MPUMALANGA**QUESTION 11**

11.1 Given : $P(A) = 0,7$

$$P(B') = 0,6 \quad \text{and} \quad P(A \text{ and } B) = 0,3$$

11.1.1 Draw a Venn diagram to illustrate the probabilities. (4)

11.1.2 Calculate $P(A \text{ or } B)$ (2)

11.1.3 Calculate $P(A' \text{ and } B)$ (2)

11.2 A survey was conducted asking 60 people if they prefer chicken or beef and if they prefer rice or potatoes. The results are shown in the contingency table below.

	Chicken	Beef	Total
Rice	a	b	25
Potatoes	c	d	35
Total	36	24	60

Assuming that choosing chicken and choosing rice are independent events.

Determine the values of a , b , c and d . (6)

[14]

JUNE 2017_NORTH WEST**QUESTION 10**

A survey concerning their holiday preferences was done with 180 staff members. The options they could choose from were to :

- Go to the coast
- Visit a game park
- Stay at home

The results were recorded in the table below:

	Coast	Game park	Home	Total
Male	46	24	13	83
Female	52	38	7	97
Total	98	62	20	180

10.1 Determine the probability that a randomly selected staff member:

10.1.1 is male (1)

10.1.2 Does not prefer visiting a game park (2)

10.2 Are the events 'being a male' and 'staying at home' independent events? Motivate your answer with relevant calculations. (4)

[7]

QUESTION 8

- 8.1 A study on eating chocolate and gender yielded the following results.

	Eating Chocolate	Not Eating Chocolate	TOTAL
Male	45	25	70
Female	35	45	80
TOTAL	80	70	150

- 8.1.1 How many people participated in this study? (1)

- 8.1.2 Calculate the following probabilities:

(a) $P(\text{Male})$

(b) $P(\text{Eating Chocolate})$

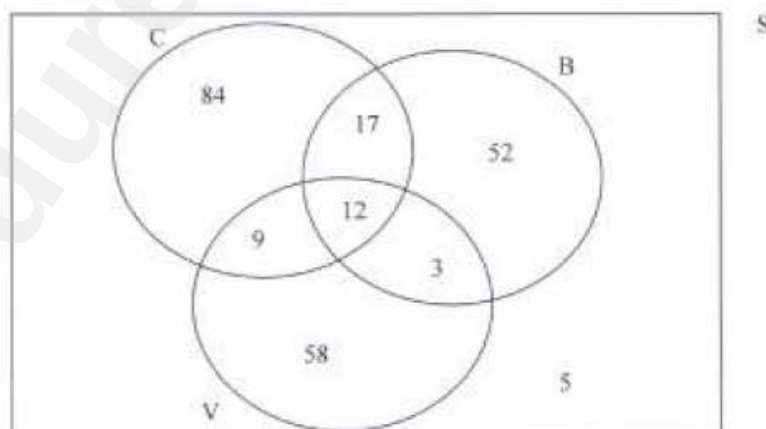
(2)

- 8.1.3 Are the events being a "Male" and "Eating chocolate" independent? (4)

Justify your answer with relevant calculations.

- 8.2 The probability of getting the first answer in a quiz correct, is 0,6. If the first answer is correct, the probability of getting the second answer correct rises to 0,7. However, if the first answer is incorrect, the probability of getting the second answer correct, is only 0,4. Determine the probability of getting the second answer correct. (4)

- 8.3 A survey was carried out with 240 customers who bought food from a fast food outlet on a particular day. The outlet sells cheese burgers (C), bacon burgers (B) and vegetarian burgers (V). The Venn diagram below shows the number of customers who bought different types of burgers on the day.



- 8.3.1 Are the events V and B mutually exclusive? Give a reason for your answer. (2)

- 8.3.2 If a customer from this group is selected at random, determine the probability that he/she **did not** buy a vegetarian burger. (3)

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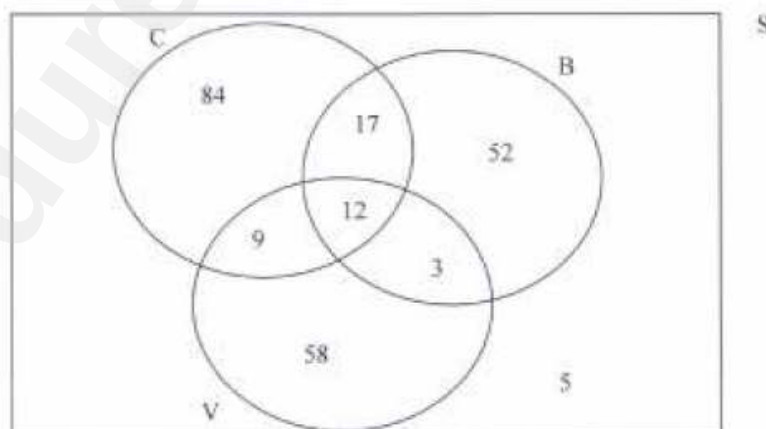
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