



SEKOLAH BUKIT SION

AY 2021 – 2022

MATHEMATICS 0580

CHAPTER TEST PROBABILITY

NAME: _____ CLASS: _____ DATE: _____

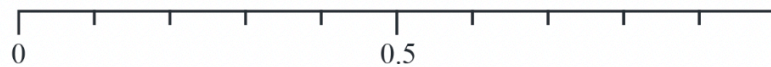
Answer all questions. Show complete working.
Marks may be deducted for missing necessary steps.
Do not share your work with anyone. Shared work will be given a zero score on this test.

Problem 01

A box contain 50 mangoes.
10 of the mangoes are rotten.

One of the mangoes is taken from the box randomly.

(a) Draw an arrow (\downarrow) on the probability scale to show the probability that the mango taken is rotten.



[1]

(b) Find the probability that this mango is not rotten.

Answer: [1]

Problem 02

Darcy goes to college by bus.
On 6 mornings out of 45, the bus is late.
In one year, David goes to college by bus 600 times.

Estimate how many mornings the bus is late in one year.

Answer: [2]

Problem 03

Each of the two boxes contains five pieces of paper labelled 1, 2, 3, 4 and 5. One piece of paper is selected at random from each box and the product of the numbers on the chosen pieces of paper is calculated.

Some of the products are shown in the possibility diagram provided below.

		Box A				
		1	2	3	4	5
Box B	×					
1				3		
2						
3					12	
4						
5						25

(a) Complete the diagram. [2]

(b) Using the diagram or otherwise, find the probability that the product of the two numbers is

(i) a multiple of 4

Answer: [1]

(ii) a prime number

Answer: [1]

(iii) less than or equal to 16

Answer: [1]

(iv) a perfect square or a perfect cube

Answer: [1]

(v) a factor of 100

Answer: [1]

Problem 04

In an envelope, there are 38 \$5 bills, x \$10 bills and $(2x - 15)$ \$50 bills.
A bill is selected at random and the probability that it is a \$50 bill is $\frac{1}{8}$.

(a) Find the value of x .

Answer: [3]

(b) If two bills are selected from the envelope, find the probability that they bills totaled more than \$50.

Answer: [3]

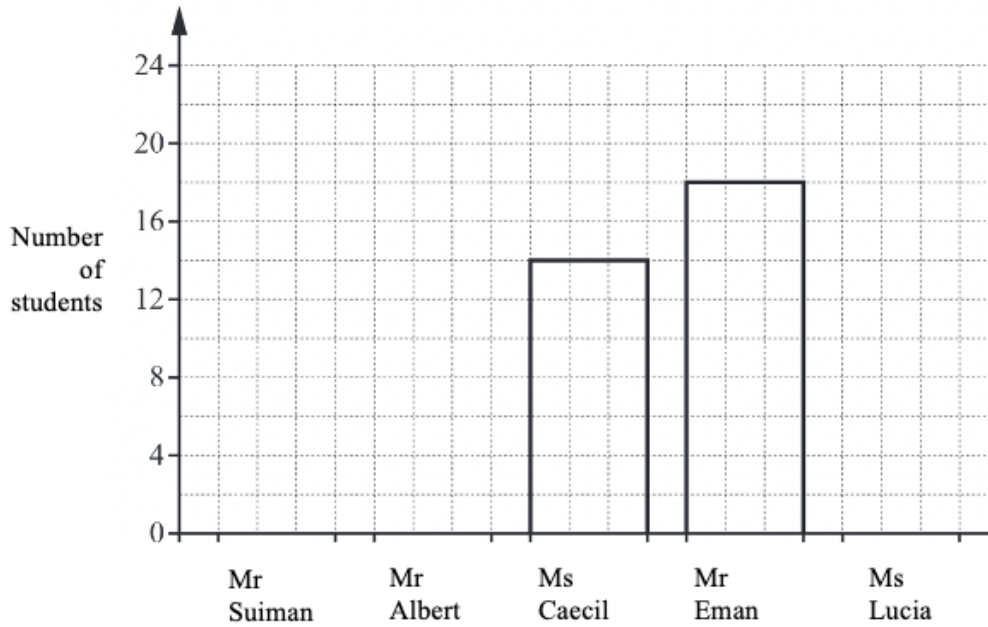
Problem 05

Three coins are tossed simultaneously.
Find the probability that the coins land in at most 2 heads.

Answer: [3]

Problem 06

80 Bukit Sion students were asked to write down the name of their current Mathematics teacher. The bar chart below shows the number of students taught by Ms Caecil and Mr Eman.



15 students are taught by Ms Lucia.

The number of students being taught by Mr Albert is twice the number of students taught by Mr Suiman.

(a) Find the number of students currently being taught by Mr Suiman.

Answer: [1]

(b) One of these students is chosen at random.
Write down the probability that this student
(i) is taught by Ms Caecil

Answer: [1]

(ii) is not taught by either Ms Caecil or by Mr Eman

Answer: [2]

(c) Two students are chosen at random, without replacement.
Calculate the probability that both students chosen are being taught currently by male teachers.

Answer: [3]

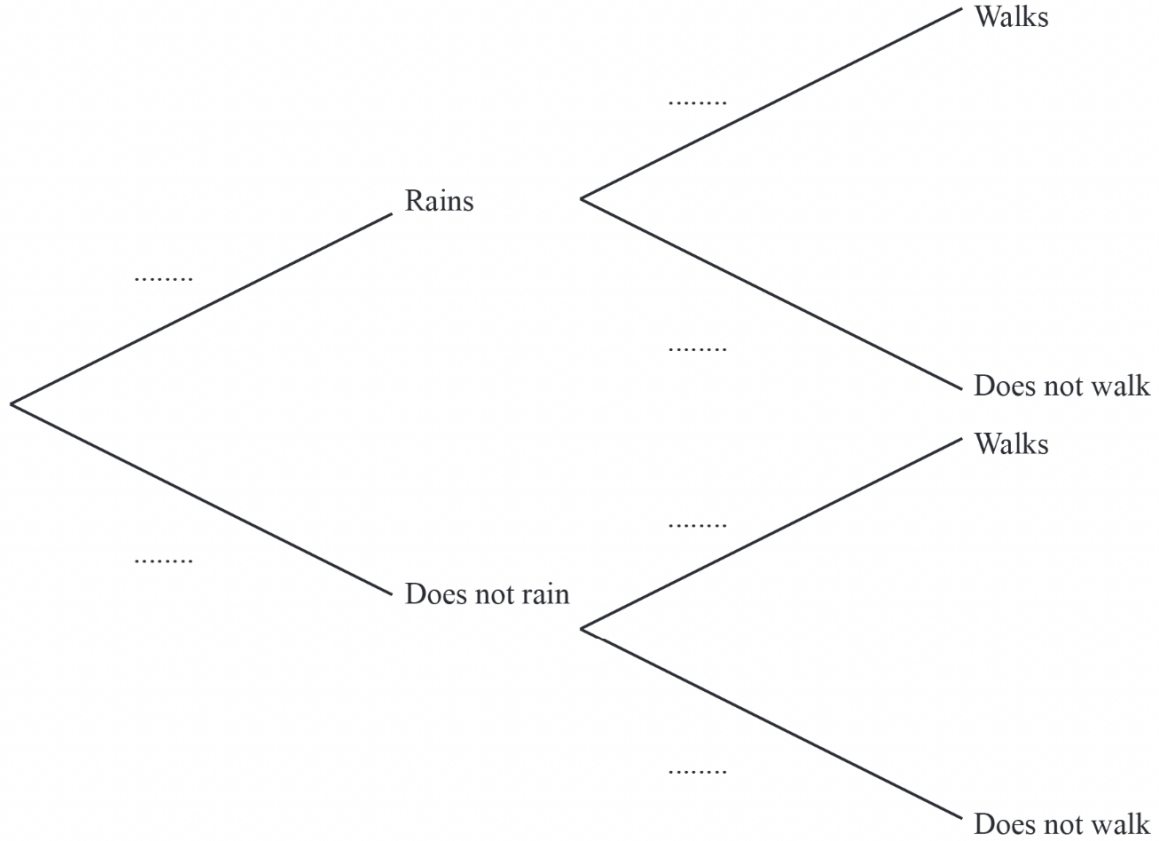
Problem 07

The probability that it will rain tomorrow is $\frac{5}{8}$.

If it rains, the probability that Janice walks to school is $\frac{1}{6}$.

If it does not rain, the probability that Janice walks to school is $\frac{7}{10}$.

(a) Complete the tree diagram.



(b) Calculate the probability that it will rain tomorrow and Janice walks to school.

Answer: [2]

(c) Calculate the probability that Janice does not walk to school.

Answer: [3]

Problem 08

7 cards contain the letters **S, U, C, C, E, S, and S** respectively.

- (a) One card is drawn randomly.
Write down the probability that the card is the letter S.

Answer: [1]

- (b) 2 cards are drawn at random.
Calculate the probability that

- (i) the first card drawn is S and the second card is E

Answer: [2]

- (ii) both cards are vowels

Answer: [2]

- (c) 3 cards are drawn at random.
Calculate the probability that the cards drawn are in the order C, U, and S.

Answer: [3]

**** END OF TEST ****

