

Delta 2

Unit 8 Review (Calculators)

Probability

How well did you do:

Probability	Score = $\frac{\quad}{48}$	
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<i>Topics/skills which need to be revisited:</i>	<i>Questions form the review</i>	<i>Further practice from Delta 2</i>
• Calculate a simple probability • Probability scale • Complete and use a table of outcomes • Comparing probabilities • Problem solving	• 1a • 1b • 3 • 4b • 6	• P191 Q1 • P192 Q4 • P119 Q1 • n/a • P193 Q9
• Calculate probabilities of mutually exclusive events	• 2,4a	• P200 Q7
• Estimating probability	• 8	• P193 Q2
• Venn diagrams	• 7	• P192 Q6
• Draw and use a tree diagram • Probability of repeated events	• 5,10 • 9	• P193 Q2 • P194 Q3,4

1 A fair 10-sided dice is rolled once. Each face has one number on it from 1 to 10.

a What is the probability of getting

i a square number

.....

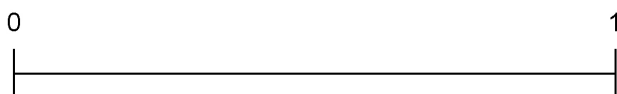
ii a number which is not a multiple of 4

.....

iii the number 12?

.....

b Show the probabilities from part a on this number line. Label each answer.



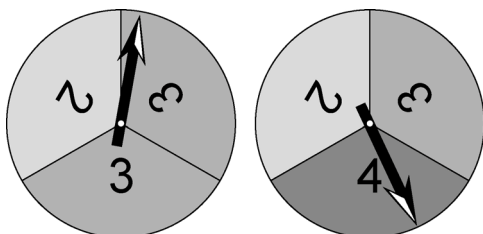
(5 marks)

2 A garden plant can produce pink, white or blue flowers. The probability of the plant having pink flowers is 0.5. Blue and white flowers are equally likely. What is the probability of a plant having white flowers?

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(2 marks)

3 Two spinners are spun together and the numbers obtained are **multiplied** together.



a Complete the table of outcomes (scores)

	2	3	3
2			
3			
4			

b What is the probability of scoring a total of 4?

.....

c What is the probability of scoring a total less than 8?

.....

d What is the probability of scoring at least 6?

.....

(5 marks)

- 4 a The probability that Ayla correctly completes a Sudoku puzzle is $\frac{4}{5}$. What is the probability that she does not complete the puzzle?

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- b The probability that Ayla correctly completes a Kakuro puzzle is $\frac{7}{9}$. Is Ayla better at Sudoku or Kakuro puzzles? Explain your reasoning.

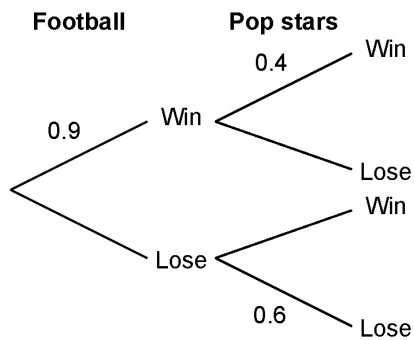
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(3 marks)

- 5 The probability that Fergus wins a game of football Top Trumps is 0.9
The probability that he wins a game of pop stars Top Trumps is 0.4

- a Complete this tree diagram.



- b What is the probability that Fergus will win both games?

.....

- c What is the probability that he will win only one of the games?

.....

- d Use your answers to parts b and c (or otherwise) to work out the probability that Fergus will lose both games. Show your working.

.....

(9 marks)

- 6 Eddie and Liam each take a card from a complete pack of 52.

Which of these rules make the game fair? Explain

- a) Eddie wins if he gets a red card. Liam wins if he gets a black card.
b) Eddie wins if he gets a picture card. Liam wins if he gets a number card.

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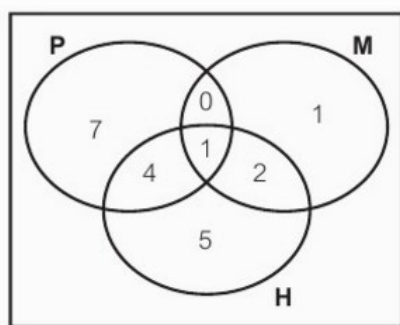
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(4 marks)

- 7 Lucy worked at Sam's Pizza Restaurant and drew up the Venn diagram below which shows people's choice of pepperoni (P), ham (H) and mushrooms (M) as pizza toppings



- a) Are these events mutually exclusive? Explain your answer

.....

.....

.....

How many people had

- i) three toppings
ii) only one topping?

- b) How many people had pizza?

- c) What is the probability that one of these people, picked at random, had exactly two toppings

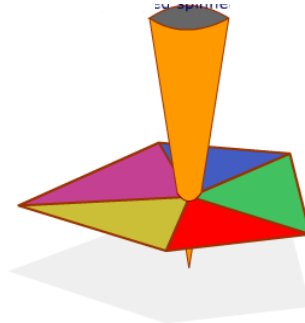
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(7 marks)

- 8 Here is a spinner. Max spins it 900 times and the records the colour it lands on each time.

The table below shows the number of times the spinner landed on the different colours.

Colour	Frequency	P(colour)
Red	108	
Green	306	
Blue	81	
Pink	189	
Yellow	216	



- a) Complete the table
- b) Estimate the probability that the spinner will land on blue or yellow

.....

- c) Max spins the spinner 2700 times. How many times would you expect the spinner to land on pink?

.....

.....

(5 marks)

- 9 Catrin's jewellery box contains 7 pairs of silver earrings and 5 pairs of gold earrings. She always picks a pair of earrings at random. Once she's worn a pair she **does not** return the earrings to the box.

On day 1 she picks a silver pair of earrings.

What is the probability that, **on day 2**, the pair of earrings she takes from the box are silver?

.....

(2 marks)

- 10** Lilli takes examinations in Maths and English. The probability that she passes Maths is 0.7.
- The probability that she passes English is 0.8. The results in each subject are independent of each other
- a) What is the probability that Lilli fails Maths? _____
- b) Draw a tree diagram below to show the probabilities of Lilli passing and failing Maths and English.
- c) Calculate the probability that
- i) Lilli passes both subjects;
 - ii) Lilli passes Maths and fails English

(6 marks)

TOTAL: 48 marks

[End of Review]