teachably

Name _____

Date _____

GCSE Mathematics

H

Conditional Probability

Higher Tier | Grades 7-9

Total Marks	Time	Questions
40	40 min	20

Instructions:

- Do not use a calculator when you see: 
- Answer all questions in the spaces provided.
- Show all your working - marks are awarded for method as well as final answers.
- Cross through any work you do not want to be marked.
- Check your answers if you have time at the end.

Edexcel-style questions

Q1

Grade 7 Edexcel style

$P(A \cap B) = 0.15$ and $P(B) = 0.5$. Find $P(A|B)$.

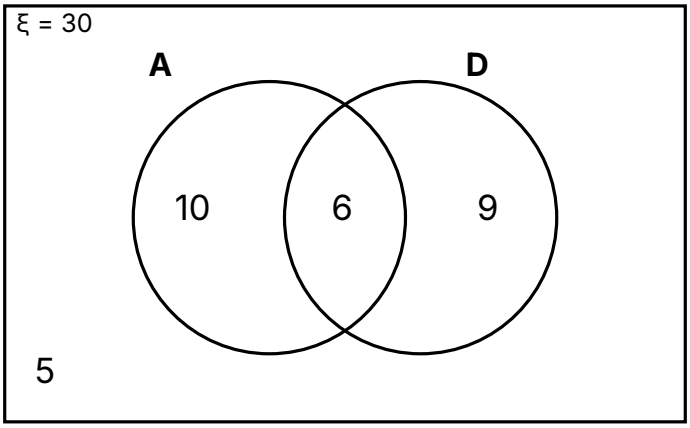
Answer _____

teachably **[2 marks]**

Q2

Grade 7 Edexcel style

The Venn diagram shows the number of students who like Art (A) and Drama (D). Find $P(A|D)$.



Answer _____

teachably **[2 marks]**

Q3

Grade 8 Edexcel style

The two-way table shows the exam results of 40 students. Find P(Pass|Revised).

	Revised	Did not revise	Total
Pass	21	6	27
Fail	3	10	13
Total	24	16	40

Answer _____

Q4

Grade 9 Edexcel style

P(A) = 0.4 and P(A|B) = 0.4. State, giving a reason, whether events A and B are independent.

Answer _____

Q5

Grade 9 Edexcel style

The probability that a student passes Test 1 is 0.6. Given that they pass Test 1, the probability they pass Test 2 is 0.75. Find the probability that they pass both tests.

Answer _____

AQA-style questions

Q6

Grade 7 AQA style

$P(A \cap B) = 0.2$ and $P(B) = 0.8$. Find $P(A|B)$.

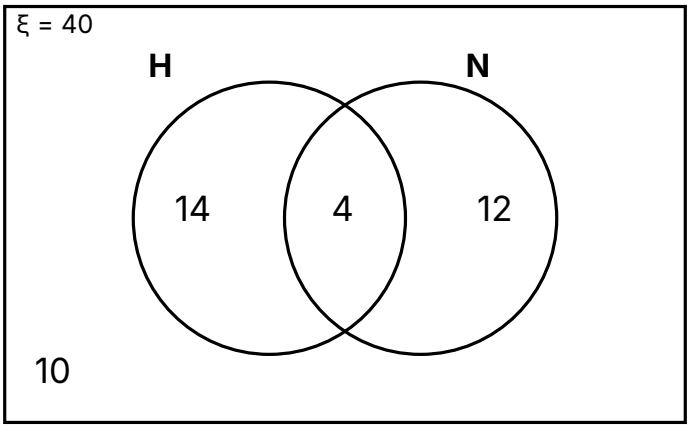
Answer _____

teachably **[2 marks]**

Q7

Grade 8 AQA style

The Venn diagram shows the number of students who play Hockey (H) and Netball (N). Find $P(H|N)$.



Answer _____

teachably **[2 marks]**

Q8

Grade 8 AQA style

The two-way table shows the results of 45 matches. Find P(Win|Home).

	Home	Away	Total
Win	18	9	27
Lose	7	11	18
Total	25	20	45

Answer _____

teachably **[2 marks]**

Q9

Grade 9 AQA style

P(A) = 0.25 and P(A|B) = 0.4. State, giving a reason, whether events A and B are independent.

Answer _____

teachably **[2 marks]**

Q10

Grade 9 AQA style

The probability that a machine starts successfully is 0.8. Given that it starts successfully, the probability it completes the full cycle is 0.25. Find the probability that it starts successfully and completes the full cycle.

Answer _____

teachably **[2 marks]**

OCR-style questions

Q11

Grade 8 OCR style

$P(A \cap B) = \frac{1}{6}$ and $P(B) = \frac{1}{2}$. Find $P(A|B)$.

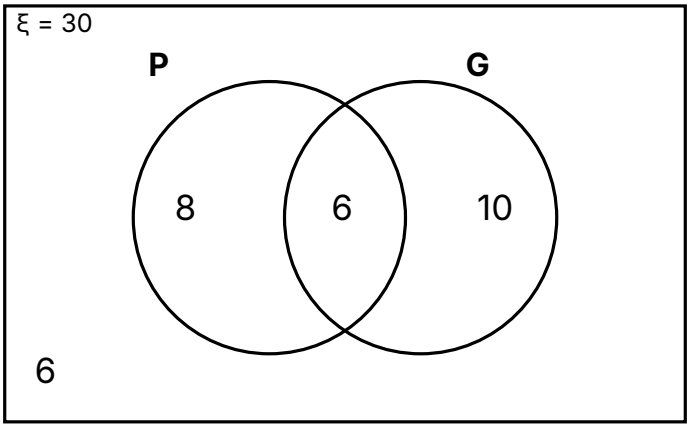
Answer _____

teachably **[2 marks]**

Q12

Grade 8 OCR style

The Venn diagram shows the number of students who play Piano (P) and Guitar (G). Find $P(P|G)$.



Answer _____

teachably **[2 marks]**

Q13

Grade 9 OCR style

The two-way table shows the punctuality of 50 commuters. Find P(Late|Bus).

	Bus	Car	Total
Late	8	4	12
On time	17	21	38
Total	25	25	50

Answer _____

teachably **[2 marks]**

Q14

Grade 9 OCR style

P(A) = 0.6 and P(A|B) = 0.6. State, giving a reason, whether events A and B are independent.

Answer _____

teachably **[2 marks]**

Q15

Grade 9 OCR style

The probability that it rains on a given day is 0.5. Given that it rains, the probability the match is cancelled is 0.6. Find the probability that it rains and the match is cancelled.

Answer _____

teachably **[2 marks]**

Teachably-style questions

Q16

Grade 8 Teachably style

$P(A \cap B) = 0.28$ and $P(B) = 0.7$. Find $P(A|B)$.

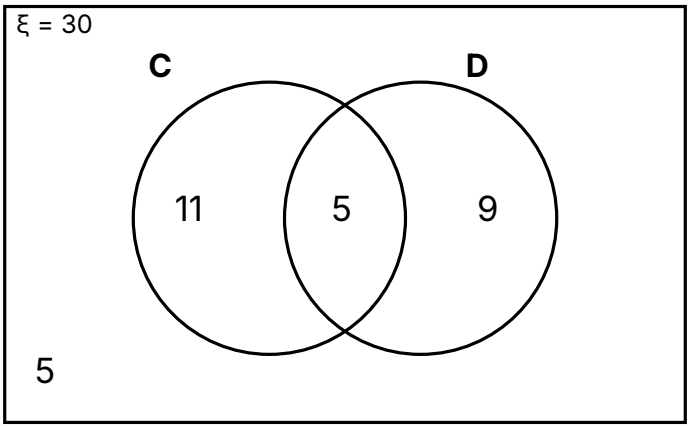
Answer _____

teachably **[2 marks]**

Q17

Grade 8 Teachably style

The Venn diagram shows the number of students in the Chess club (C) and Debate club (D). Find $P(C|D)$.



Answer _____

teachably **[2 marks]**

Q18

Grade 9 Teachably style

The two-way table shows the test outcomes of 50 students. Find P(Correct|Studied A).

	Studied A	Studied B	Total
Correct	19	13	32
Incorrect	6	12	18
Total	25	25	50

Answer _____

teachably **[2 marks]**

Q19

Grade 9 Teachably style

P(A) = 0.35 and P(A|B) = 0.5. State, giving a reason, whether events A and B are independent.

Answer _____

teachably **[2 marks]**

Q20

Grade 9 Teachably style

The probability that a customer buys a coffee is 0.9. Given that they buy a coffee, the probability they also buy a pastry is 0.4. Find the probability that they buy both a coffee and a pastry.

Answer _____

teachably **[2 marks]**

END OF PAPER