Multiple choice questions - Conditional probability

Year: Year 11 · 10

Question 1 (Higher) $P(A \mid B)$ means

- ◯ **A.** probability of A and B
- ◯ **B.** probability of A given B
- ◯ **C.** probability of B given A
- ◯ **D.** probability of A or B

Question 2 (Higher) In a conditional probability the denominator is

- ◯ **A.** the total of everything
- ◯ **B.** the total for the condition
- ◯ **C.** always 100
- ◯ **D.** the number in A

Question 3 (Higher) 20 of 45 boys walk. P(walks | boy) is

- ◯ **A.** 20/100
- ◯ **B.** 20/45
- ◯ **C.** 45/20
- ◯ **D.** 20/35

Question 4 (Higher) A bag has 3 red and 2 blue. One red is taken. P(second is red | first red) is

- ◯ **A.** 3/5
- ◯ **B.** 2/4
- ◯ **C.** 2/5
- ◯ **D.** 3/4

Question 5 (Higher) If A and B are independent then P(A | B) equals

- ◯ **A.** P(B)
- ◯ **B.** P(A)
- ◯ **C.** P(A)+P(B)
- ◯ **D.** 0

Question 6 (Higher) $P(A \cap B) = 0.1$, $P(B) = 0.4$. $P(A \mid B) =$

- ◯ **A.** 0.04
- ◯ **B.** 0.25

- ◯ **C.** 0.5
- ◯ **D.** 2.5

Question 7 (Higher) P(rain and late) = 0.15 and P(late) = 0.22. P(rain | late) is

- ◯ **A.** 0.15/0.22
- ◯ **B.** 0.22/0.15
- ◯ **C.** 0.15x0.22
- ◯ **D.** 0.15

Question 8 (Higher) The words 'of those who' suggest

- ◯ **A.** independent events
- ◯ **B.** conditional probability
- ◯ **C.** mutually exclusive
- ◯ **D.** relative frequency

Question 9 (Higher) A Venn diagram has 10 in A and B and 25 in B. P(A | B) is

- ◯ **A.** 10/50
- ◯ **B.** 10/25
- ◯ **C.** 25/10
- ◯ **D.** 1/10

Question 10 (Higher) P(A | B) and P(B | A) are

- ◯ **A.** always equal
- ◯ **B.** usually different
- ◯ **C.** always 0
- ◯ **D.** always 1

Answer grid - Conditional probability

Year: Year 11

Question	Answer	Explanation
1	**B**	Given.
2	**B**	Condition only.
3	**B**	Out of the boys.
4	**B**	2 red left out of 4.
5	**B**	Knowing B changes nothing.
6	**B**	0.1/0.4.
7	**A**	Divide by the condition total.
8	**B**	Restricts the sample space.
9	**B**	Out of B.
10	**B**	Order matters.