ENGLAND GCSE MATHS AQA HIGHER · UNIT 12 · 25 QUESTIONS

Probability — Practice Test

This practice test was made by AI and there may be mistakes. If a question or answer looks wrong, use the Flag a mistake button to let Brett know so he can fix it.

1 **The probability of rain on Saturday is 0.5. If it rains, the probability a passenger train is late is 0.6. If it does not rain, the probability the train is late is 0.2. The probability the train is late is**

- **A** 0.3
- **B** 0.4
- **C** 0.5
- **D** 0.1

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2 **A bag contains 5 red glass marbles and 2 blue glass marbles. The probability of picking a red marble is**

- **A** $\frac{6}{7}$
- **B** $\frac{2}{7}$
- **C** $\frac{5}{7}$
- **D** $\frac{5}{8}$

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3 **A fruit bowl contains 3 lemons and 10 apples. The probability of picking a lemon is**

- **A** $\frac{3}{13}$
- **B** $\frac{10}{13}$
- **C** $\frac{1}{5}$
- **D** $\frac{4}{13}$

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4 A shelf has 8 hardcover books: 2 red and 6 blue. The probability of picking a red book is

- **A** $\frac{1}{5}$
- **B** $\frac{3}{8}$
- **C** $\frac{1}{4}$
- **D** $\frac{3}{4}$

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5 Three silver coins are tossed. The probability of three heads is

- **A** $\frac{3}{4}$
- **B** $\frac{1}{2}$
- **C** $\frac{1}{16}$
- **D** $\frac{1}{8}$

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6 An ice cream cone is chosen at random from 10 cones: 4 vanilla and 6 chocolate. The probability it is vanilla is

- **A** $\frac{2}{5}$
- **B** $\frac{1}{3}$
- **C** $\frac{1}{2}$
- **D** $\frac{3}{5}$

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7 A fair six-sided dice is rolled. The probability of a 4 is

- **A** $\frac{1}{4}$
- **B** $\frac{1}{6}$
- **C** $\frac{1}{2}$
- **D** $\frac{1}{3}$

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8 **A coin is tossed 200 times. It lands on heads 91 times. The relative frequency of heads is**

- **A** 0.505
- **B** 0.405
- **C** 0.455
- **D** 0.545

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9 **A bag has 5 red and 6 blue counters. Two are drawn without replacement. The probability both are red is**

- **A** $\frac{5}{11}$
- **B** $\frac{25}{121}$
- **C** $\frac{3}{11}$
- **D** $\frac{2}{11}$

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10 A fair coin is tossed. The probability of a head is

- A $\frac{1}{3}$
- B $\frac{1}{4}$
- C $\frac{1}{2}$
- D $\frac{2}{3}$

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11 Two dice are rolled. The probability of a total of 6 is

- A $\frac{7}{36}$
- B $\frac{1}{6}$
- C $\frac{1}{9}$
- D $\frac{5}{36}$

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12 A bag has 5 red and 2 blue marbles. A red marble is taken out. The probability the next marble is red is

- **A** $\frac{5}{7}$
- **B** $\frac{1}{3}$
- **C** $\frac{2}{3}$
- **D** $\frac{4}{7}$

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13 The probability of rain is 0.4. The probability of no rain is

- **A** 0.4
- **B** 0.7
- **C** 0.6
- **D** 0.5

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14 **A box contains 16 eggs. 3 eggs are cracked. The probability of picking a cracked egg is**

- **A** $\frac{3}{20}$
- **B** $\frac{3}{16}$
- **C** $\frac{1}{4}$
- **D** $\frac{13}{16}$

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15 **In a class of 30, 15 are girls and 15 are boys. 8 girls and 5 boys wear glasses. The probability that a student chosen at random is a girl who wears glasses is**

- **A** $\frac{4}{15}$
- **B** $\frac{8}{15}$
- **C** $\frac{13}{30}$
- **D** $\frac{1}{6}$

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16 **P(A) = 0.3, P(B) = 0.2, P(A and B) = 0.1. P(A or B) is**

- A 0.4
- B 0.5
- C 0.6
- D 0.06

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17 **A coin is tossed 100 times. It lands on heads 37 times. The relative frequency of heads is**

- A 0.32
- B 0.37
- C 0.42
- D 0.63

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18 A bag has 6 red and 4 blue counters. Two are drawn without replacement. The probability both are red is

- **A** $\frac{9}{25}$
- **B** $\frac{2}{15}$
- **C** $\frac{1}{3}$
- **D** $\frac{3}{5}$

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19 Two dice are rolled. The probability of a total of 7 is

- **A** $\frac{1}{6}$
- **B** $\frac{5}{36}$
- **C** $\frac{1}{4}$
- **D** $\frac{7}{36}$

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20 A bag has 4 red and 2 blue marbles. A red marble is taken out. The probability the next marble is red is

- **A** $\frac{3}{5}$
- **B** $\frac{2}{3}$
- **C** $\frac{2}{5}$
- **D** $\frac{1}{2}$

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21 In a class of 30, 15 are girls and 15 are boys. 12 girls and 6 boys wear glasses. The probability that a student chosen at random is a girl who wears glasses is

- **A** $\frac{4}{5}$
- **B** $\frac{1}{5}$
- **C** $\frac{3}{5}$
- **D** $\frac{2}{5}$

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22 P(A) = 0.4, P(B) = 0.4, P(A and B) = 0.1. P(A or B) is

- A 0.7
- B 0.9
- C 0.8
- D 0.16

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23 A bag has 4 red and 5 blue counters. Two are drawn without replacement. The probability both are red is

- A $\frac{5}{18}$
- B $\frac{16}{81}$
- C $\frac{1}{6}$
- D $\frac{4}{9}$

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24 **Two dice are rolled. The probability of a total of 8 is**

- **A** $\frac{1}{6}$
- **B** $\frac{5}{36}$
- **C** $\frac{7}{36}$
- **D** $\frac{1}{9}$

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25 **A bag has 5 red and 3 blue marbles. A red marble is taken out. The probability the next marble is red is**

- **A** $\frac{4}{7}$
- **B** $\frac{1}{2}$
- **C** $\frac{3}{7}$
- **D** $\frac{5}{8}$

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ANSWER KEY

1. B
2. C
3. A
4. C
5. D
6. A
7. B
8. C
9. D
10. C
11. D
12. C
13. C
14. B
15. A
16. A
17. B
18. C
19. A
20. A
21. D
22. A
23. C
24. B
25. A

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