CALIFORNIA STATISTICS · UNIT 2 · 25 QUESTIONS

Probability and Probability Distributions — 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 **A fair coin is tossed once. The probability of heads is**

- A 0.25
- B 0.5
- C 2
- D 1

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2 **A fair six sided die is rolled. The probability of a 5 is**

- **A** $\frac{1}{6}$
- **B** $\frac{1}{2}$
- **C** $\frac{5}{6}$
- **D** $\frac{1}{3}$

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3 **A fair six sided die is rolled. The probability of an even number is**

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

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4 **If P(A) = 0.3, then P(not A) is**

- A 1.3
- B 0.03
- C 0.3
- D 0.7

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5 **Two fair coins are tossed. The probability of two heads is**

- A 0.5
- B 0.25
- C 0.75
- D 1

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6 **A bag has 4 red and 6 blue marbles. The probability of drawing red is**

- A 0.25
- B 0.67
- C 0.4
- D 0.6

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7 **If P(A) = 0.4 and P(B) = 0.5 for independent events, P(A and B) is**

- A 0.45
- B 0.9
- C 0.1
- D 0.2

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8 **If P(A) = 0.4, P(B) = 0.5, and P(A and B) = 0.1, then P(A or B) is**

- A 0.7
- B 0.8
- C 0.9
- D 1.0

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9 **For mutually exclusive events A and B, P(A or B) equals**

- A P(A) - P(B)
- B P(A) × P(B)
- C P(A) + P(B)
- D 0

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10 A card is drawn from a standard deck. The probability it is an ace is

- **A** $\frac{1}{13}$
- **B** $\frac{4}{13}$
- **C** $\frac{1}{52}$
- **D** $\frac{1}{4}$

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11 A card is drawn from a standard deck. The probability it is a heart is

- **A** $\frac{1}{13}$
- **B** $\frac{1}{52}$
- **C** $\frac{1}{2}$
- **D** $\frac{1}{4}$

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12 **If P(A) = 0.6 and P(B given A) = 0.5, then P(A and B) is**

- A 0.6
- B 1.1
- C 0.1
- D 0.3

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13 **The expected value of a fair six sided die roll is**

- A 2.5
- B 4
- C 3
- D 3.5

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14 **A binomial experiment has n = 10 and p = 0.4. The mean number of successes is**

A 6

B 4

C 10

D 2.4

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15 **A binomial experiment has n = 20 and p = 0.5. The mean number of successes is**

A 20

B 5

C 15

D 10

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16 **In a binomial distribution, the standard deviation is $\sqrt{np(1-p)}$. For n = 100, p = 0.5, it is**

- A 5
- B 25
- C 50
- D 10

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17 **The sum of probabilities in a valid probability distribution is**

- A 0
- B 1
- C 2
- D 0.5

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18 **A spinner has 8 equal sections. The probability of one given section is**

ANSWER _____

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19 **If P(A) = 0.25, then P(not A) is**

ANSWER _____

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20 **Two independent events each have probability 0.5. The probability both occur is**

ANSWER _____

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21 **A binomial experiment has n = 25 and p = 0.2. The mean, is**

ANSWER _____

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22 **A fair coin is tossed three times. The probability of three heads is**

ANSWER _____

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23 **A normal distribution has mean 80 and standard deviation 10. About what percent lie below 70?**

A 84%

B 50%

C 16%

D 34%

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24 **The Law of Large Numbers says that as trials increase, the relative frequency tends toward the**

- A maximum
- B true probability
- C mean of the sample
- D sample size

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25 **Sampling with replacement keeps probabilities**

- A changing each draw
- B the same each draw
- C at zero
- D at one

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ANSWER KEY

1. B
2. A
3. A
4. D
5. B
6. C
7. D
8. B
9. C
10. A
11. D
12. D
13. D
14. B
15. D
16. A
17. B
18. 0.125
19. 0.75
20. 0.25
21. 5
22. 0.125
23. C
24. B
25. B

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