MASSACHUSETTS GEOMETRY · UNIT 4 · 25 QUESTIONS

Data Analysis and 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 data are 4, 6, 8, 10, and 12. The mean is**

- A 10
- B 8
- C 6
- D 40

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2 **The data are 3, 5, 7, 8, 9, and 12. The median is**

- A 7
- B 8
- C 7.5
- D 9

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3 **The data are 2, 3, 3, 5, 7, and 3. The mode is**

- A 2
- B 5
- C 7
- D 3

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4 **The data range from 4 to 18. The range is**

- **A** 14
- **B** 18
- **C** 4
- **D** 22

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5 **The data are 2, 4, 6, 8, 10, 12, and 14. The first quartile is 4 and the third quartile is 12. The interquartile range is**

- **A** 10
- **B** 8
- **C** 6
- **D** 4

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6 **The data are 2, 4, 4, 4, 5, 5, 7, and 9. The population standard deviation is**

- A 4
- B 1.4
- C 2
- D 5

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7 **The data are 4, 6, and 8. The mean absolute deviation, to one decimal place, is about**

- A 2
- B 1.3
- C 0
- D 4

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8 A fair six sided die is rolled once. The probability of rolling a prime number is

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

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

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

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

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

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11 The probability of rain tomorrow is 0.3. The probability of no rain is

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

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12 **A bag has 3 red balls and 2 blue balls. Two balls are drawn without replacement. The probability both are red is**

- **A** 0.6
- **B** 0.36
- **C** 0.3
- **D** 0.5

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13 **A die is rolled and a coin is tossed. The probability of an even number and heads is**

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

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14 **In a survey of 50 students, 18 like both sports and music, 12 like sports only, 10 like music only, and 10 like neither. The probability a randomly chosen student likes sports is**

- A 0.36
- B 0.6
- C 0.24
- D 0.2

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15 **Using the same survey, the probability a student likes music, given that the student likes sports, is**

- A 0.36
- B 0.3
- C 0.72
- D 0.6

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16 **A line of best fit is y = 2x + 3. The predicted value of y when x = 10 is**

A 20

B 23

C 13

D 33

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17 **For a data point, the actual value is 25 and the predicted value is 23. The residual is**

A 2

B -2

C 48

D 0

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18 **A correlation coefficient of r = 0.92 indicates a**

A weak negative correlation

B strong positive correlation

C no correlation

D weak positive correlation

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19 **In a scatter plot, as x increases, y tends to decrease. The correlation is**

A positive

B none

C negative

D perfectly positive

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20 **Test scores are normally distributed with mean 100 and standard deviation 15. About what percent of scores are between 85 and 115?**

- A 95%
- B 68%
- C 99.7%
- D 50%

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21 **A box plot has first quartile 12 and third quartile 28. The interquartile range is**

- A 16
- B 8
- C 35
- D 20

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22 **Adding a very large outlier to a data set usually**

- A increases the median more than the mean
- B leaves both the mean and median unchanged
- C increases the mean more than the median
- D changes the mode the most

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23 **Which sample is least likely to be biased for a school survey?**

- A students in one class
- B volunteers only
- C the survey writers friends
- D a random sample from all students

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24 **The data are 6, 9, 12, 15, and 18. The mean is _____**

ANSWER _____

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25 **A bag has 4 red balls and 6 blue balls. The probability of drawing a blue ball is _____**

ANSWER _____

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ANSWER KEY

1. B
2. C
3. D
4. A
5. B
6. C
7. B
8. C
9. D
10. A
11. B
12. C
13. A
14. B
15. D
16. B
17. A
18. B
19. C
20. B
21. A
22. C
23. D
24. 12
25. 0.6

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