ALBERTA MATH 30-3 · UNIT 5 · 25 QUESTIONS

Statistics 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 graph shows the hours a cleaner worked on five days. The mean number of hours per day is**

- A 8 hours
- B 40 hours
- C 9 hours
- D 7 hours

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2 **A server earned tips of $10, $15, $9, $20, and $14 on five shifts. The median tip amount is**

- A $13.60
- B $14
- C $9
- D $15

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3 **A shoe store sold sizes 8, 9, 9, 10, 9, 11, 8, and 9 in one morning. The mode shoe size is**

- A 8
- B 10
- C 9
- D 11

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4 **A data set of weekly earnings has one value that is much larger than all the other values. Which statement about this data set is correct?**

- A The large value has no effect on the mean.
- B The large value lowers the median below every other value.
- C The mean and the median are always equal.
- D The large value raises the mean much more than it raises the median.

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5 **Test scores out of 100 were 52, 58, 61, 64, 70, 73, 76, 80, 85, and 91 . The percentile rank of a score of 73 is**

- A 55
- B 50
- C 60
- D 45

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6 **The graph shows lunches sold each day from Monday to Thursday. The total number sold from Monday to Wednesday is**

- A 120
- B 55
- C 83
- D 92

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7 A standard die is rolled once. The probability of rolling a 5 or a 6 is

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

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8 The probability of an event is 0.6 . The odds in favour of the event are

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

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9 **The odds against a team winning a game are 5:3 . The probability that the team wins the game is**

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

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10 **A fair game pays $10 with probability 0.2, $5 with probability 0.3, and $0 otherwise. The expected value of one play is**

- **A** $2.00
- **B** $5.00
- **C** $3.50
- **D** $15.00

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11 **Five workers earn $18, $20, $22, $19, and $26 per hour. The mean hourly wage is**

A $20

B $21

C $19

D $22

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12 **Monthly pay at a small shop is $2400, $2500, $2600, $2550, and $12000 for the owner. Which measure best represents a typical monthly pay?**

A The mean, because it uses every value in the data set.

B The mode, because it is the most common pay.

C The range, because it shows the spread of the pay.

D The median, because the mean is pulled up by the one very large pay.

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13 **Quiz scores were 45, 52, 55, 60, 63, 66, 70, 74, 78, 82, 88, and 95 . The percentile rank of a score of 70, to the nearest whole number, is**

- A 50
- B 54
- C 58
- D 70

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14 **The graph shows bikes rented each month from June to September. The number rented in July and August combined is**

- A 330
- B 300
- C 270
- D 360

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15 **A box holds 7 blue pens and 5 black pens. One pen is chosen at random. The probability that it is blue is**

- **A** $\frac{5}{12}$
- **B** $\frac{7}{5}$
- **C** $\frac{7}{12}$
- **D** $\frac{1}{2}$

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16 **A raffle sells 200 tickets for one prize. A worker buys 5 tickets. The odds in favour of the worker winning the prize are**

- **A** 1:40
- **B** 39:1
- **C** 5:40
- **D** 1:39

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17 **A raffle sells 200 tickets at $2 each. The only prize is $100 . One ticket is bought. Which statement about the ticket is correct?**

- A The expected net gain is -$1.50, so the ticket loses money on average.
- B The expected net gain is $0.50, so the ticket makes money on average.
- C The expected net gain is $98, so the ticket is a very good buy.
- D The expected net gain is $0, so the ticket is a fair buy.

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18 **Four test scores are 70, 80, 75, and 85 . The mean of five test scores is 80 . The fifth test score is**

- A 85
- B 90
- C 80
- D 95

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19 **Delivery times in minutes were 12, 15, 12, 18, 20, 12, and 16 . The mode and the median of the times are**

A Mode 15, median 12

B Mode 12, median 12

C Mode 12, median 15

D Mode 16, median 15

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20 **Weekly pay for five workers is $600, $620, $640, $610, and $2000 . The mean weekly pay minus the median weekly pay is**

A $620

B $894

C $260

D $274

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21 **In one month of 30 days, it rained on 9 days. The experimental probability of rain on a day that month, expressed as a percent, is**

A 30%

B 9%

C 70%

D 90%

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22 **The graph shows overtime hours for 10 workers. The mean number of overtime hours is**

A 1.0 hours

B 1.1 hours

C 1.5 hours

D 2.0 hours

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23 **A bag contains 4 red counters and 6 blue counters. One counter is drawn at random. The odds against drawing a red counter are**

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

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24 **A charity draw pays $12 with probability 0.25, $4 with probability 0.25, and $0 otherwise. The expected value of one ticket is**

- A $3
- B $8
- C $16
- D $4

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25

Leah placed at the 80th percentile on a safety test written by her coworkers. What does this result mean?

A About 80% of the scores were at or below her score.

B She answered 80% of the questions correctly.

C About 80% of the scores were above her score.

D She finished in 80th place on the test.

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ANSWER KEY

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

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