ExamPath

CLASS 9 MATHEMATICS · FBISE · UNIT 11

Unit 11: Basic Statistics — Beginner Practice

15 multiple-choice questions Suggested time: **15 minutes** 1 mark each

Name: Date: Score: / 15

Circle one answer for each question. The answer key with explanations is on the last pages, so try every question before you check. These are practice questions, not official FBISE papers.

1. Which value represents a whole class when finding the mean of grouped data?

(A) Its frequency
(B) Its lower limit
(C) Its upper limit
(D) Its class mark (mid-value)

2. Why must the data be arranged in order before finding the median?

(A) Arranging the data changes the mean
(B) The median is the middle value of the arranged data
(C) The median is the largest value
(D) The median is the sum divided by n

3. The arithmetic mean of n values is:

(A) the most frequent value
(B) n ÷ (sum of the values)
(C) (sum of the values) ÷ n
(D) the middle value of the arranged data

4. Why can one very large value change the mean a lot?

(A) The mean ignores the largest value
(B) Every value is added into the sum, so an extreme value pulls the mean towards it
(C) It changes only the mode
(D) The mean is the middle value

5. A fair coin gives 6 heads in 10 tosses. How does 6/10 compare with 1/2?

(A) 6/10 is the expected frequency
(B) 6/10 proves that the coin is unfair
(C) 6/10 is the relative frequency of this experiment and can differ from the theoretical 1/2
(D) 6/10 is the theoretical probability

6. The value that occurs most often in a data set is called the:

(A) mode
(B) median
(C) range
(D) mean

7. Find the mean of 2, 4, 6, 8 and 10.

(A) 6
(B) 5
(C) 30
(D) 8

8. The probability of an impossible event is:

(A) 1
(B) 0
(C) −1
(D) 1/2

9. Why do P(E) and P(E′) add up to 1?

(A) Both events are equally likely
(B) P(E) is always 1/2
(C) P(E′) is always 0
(D) Either the event happens or it does not, and together they cover every outcome

10. Which of these cannot be the probability of an event?

(A) 1.2
(B) 0
(C) 1
(D) 0.5

11. A letter is chosen at random from the word ALLAH. What is the probability of getting L?

(A) 2/5
(B) 2/3
(C) 1/5
(D) 1/2

12. How does a histogram differ from an ordinary bar graph?

(A) It has no frequency axis
(B) Its bars are always the same height
(C) It uses circles instead of bars
(D) Its rectangular bars are adjacent, with no gaps

13. The data 2, 2, 5, 5, 9 has:

(A) no mode
(B) one mode, 2
(C) two modes, 2 and 5
(D) one mode, 5

14. The relative frequency of an event is:

(A) total number of trials ÷ frequency of the event
(B) frequency of the event ÷ total number of trials
(C) frequency of the event − total number of trials
(D) frequency of the event × total number of trials

15. Find the median of 3, 8, 5, 10.

(A) 8
(B) 5
(C) 6.5
(D) 26

Answer key

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1 D	**2** B	**3** C	**4** B	**5** C
6 A	**7** A	**8** B	**9** D	**10** A
11 A	**12** D	**13** C	**14** B	**15** C

Explanations

1. D. Its class mark (mid-value)
The exact values inside a class are unknown, so the class mark is used to represent the class.

2. B. The median is the middle value of the arranged data
The median is defined as the middle-most value of ordered data, so the order matters.

3. C. (sum of the values) ÷ n
Mean = (sum of all values) ÷ (number of values).

4. B. Every value is added into the sum, so an extreme value pulls the mean towards it
The mean uses all the values, so one extreme value affects it. The median is much less affected.

5. C. 6/10 is the relative frequency of this experiment and can differ from the theoretical 1/2
Relative frequency comes from an experiment and may differ from the theoretical probability, especially in a few trials.

6. A. mode
The modal average, or mode, is the most frequent value.

7. A. 6
Sum = 30 and n = 5, so mean = 30 ÷ 5 = 6.

8. B. 0
An event that can never happen has no favourable outcomes, so its probability is 0.

9. D. Either the event happens or it does not, and together they cover every outcome
Complementary events are the two parts of the whole sample space, so their probabilities sum to unity.

10. A. 1.2
Probability always lies from 0 to 1, so 1.2 is not possible.

11. A. 2/5
L occurs 2 times among 5 letters, so P(L) = 2/5.

12. D. Its rectangular bars are adjacent, with no gaps
A histogram is a chart of adjacent rectangular bars, one for each class interval.

13. C. two modes, 2 and 5
Both 2 and 5 occur twice, which is the highest frequency, so there are two modes.

14. B. frequency of the event ÷ total number of trials
Relative frequency = (times the event occurred) ÷ (total trials). It is also called experimental probability.

15. C. 6.5
Arrange as 3, 5, 8, 10. There are four values, so median = (5 + 8)/2 = 6.5.

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