

# DATA Practice Math Assessment

Data Analysts are unique because they hold traits that allow them to effectively communicate data findings to stakeholders. Why is a math assessment important? Data analysts serve as data gatekeepers for organizations, so stakeholders can understand data and use it to make informed, strategic business decisions. Before you can manipulate the data and create visualizations of what the data is saying, you will need to identify key performance indicators, business objectives, and know how to effectively research the data story. The practice math assessment will prepare you for data analysis-type questions and scenarios. It will also guide you in your ability to be successful in the math assessment.

## How should you prepare?

To prepare for the practice math assessment, familiarize yourself with the concepts of basic arithmetic, algebra, descriptive statistics, probability, and percentages. It is likely that there will be several questions around each area. It is important that you read the entire question or scenario carefully and identify important information. If you are not sure of the answer, eliminate the incorrect choices to the best of your ability using your problem solving and critical thinking skills.

## Assessment Learning Outcomes

At the end of this practice assessment, you will be able to:

- 1) Demonstrate your knowledge in arithmetic and order of operations.
- 2) Demonstrate your knowledge of basic algebraic expressions.
- 3) Demonstrate your knowledge in descriptive statistics and probability.
- 4) Demonstrate your ability to problem solve and think critically.
- 5) Prepare yourself to take the math assessment.

## Ready to start the assessment?

- 1) The practice assessment (and the actual assessment) is open book, meaning that you can use all accessible resources including internet searches for assistance.
- 2) Do not close out or refresh your browser during the assessment, you will get locked out and unable to finish.
- 3) Once you click next you will have no time limit to complete the assessment. However, it is encouraged that you set a timer and work at a steady pace. Try and complete the practice assessment in 30 minutes to prepare you for the math assessment.

Good luck and have fun!

## Data Analytics Practice Math Assessment Questions

1. The average, median, and mode are calculated for the list sequence 3, 3, 7, 11, 14. If you add the number 1 to the list, which of the following will change: the average, the median, the mode? 1 point

*Mark only one oval.*

- ☐ None will change
- ☐ Both the median and mode will change
- ☐ Both the average and the median will change
- ☐ Only the average will change

2. Which of the following is the lowest ratio? 1 point

*Mark only one oval.*

- ☐ 7:13
- ☐ 17:25
- ☐ 7:15
- ☐ 15:23

3. A college entrance exam is made up of 2 parts. The first part is made up of 180 questions, while the second part is made up of 150 questions. Students must get at least 50% of the TOTAL number of questions correct (Or 165 correctly answered questions) to be considered for admissions. After completing the first section of the test, Sally only got 30% of the questions correct. What percentage of the remaining questions must Sally answer correctly to hit the 50% overall threshold? 1 point

*Mark only one oval.*

- ☐ 74 %
- ☐ 76 %
- ☐ 70 %
- ☐ 80 %

4. Working as an analyst for a marketing firm, you are tasked with tracking the project workload that departments are working on. With a total of 18 employees, each employee is responsible for 360 annual projects. When 3 employees leave the company, their caseload is reallocated across the remaining employees. How many projects are each of the remaining employees now responsible for? 1 point

*Mark only one oval.*

- ☐ 405
- ☐ 432
- ☐ 468
- ☐ 472

5. If  $A : B = 2 : 3$  and  $B : C = 4 : 5$ , then  $C : A$  is equal to: 1 point

*Mark only one oval.*

- ☐ 12: 11
- ☐ 15 : 8
- ☐ 8 :5
- ☐ 8 : 15

6. Your company wants to purchase swag gear for employees. They bought 5 sample merchandise at \$ 450 each, 4 sample signs at \$ 750 each, and 12 Chromebooks with logo at \$ 750 each. What is the average spent per article? 1 point

*Mark only one oval.*

- ☐ \$ 678.57
- ☐ \$ 900.03
- ☐ \$ 800
- ☐ \$ 1000

7. What is the next number in the sequence: 100, 99, 96, 91, 84, 75, 64?

1 point

*Mark only one oval.*

☐ 60

☐ 48

☐ 32

☐ 51

8. You are planning on taking money out of your retirement savings. If you are repaying the loan in installments of \$72.12 every two weeks, how much of the loan will you pay back in 32 weeks?

1 point

*Mark only one oval.*

☐ \$981

☐ \$1,153.92

☐ \$1,376.57

☐ \$1,731

9. You and your coworker are in a friendly competition to see who can file the most letters. Claire can file 50 letters in 10 minutes. You can file 40 letters in the same amount of time. How many letters will the two of you file in 9 hours?

1 point

*Mark only one oval.*

☐ 4,860

☐ 4,970

☐ 4,950

☐ 5,100

10. Two college-level courses administered placement tests. The first course had 25 students with an average test score of 86%. The second course had 15 students with an average test score of 94%. If you needed to combine the test scores of both courses, what is the average of both courses together? 1 point

*Mark only one oval.*

- ☐ 78%
- ☐ 89%
- ☐ 92%
- ☐ 94%

**Please use the below information to help answer question 11.**

In general, the  $n$ th percentile is a value such that  $n\%$  of the observations fall at or below it.

Quartiles help you determine where your data falls:

First quartile: the lowest 25% of numbers

Second quartile: between 25.1% and 50% (up to the median).

Third quartile: 50.1% to 75% (above the median).

Fourth quartile: the highest 25% of numbers

11. After conducting an analysis of employee demographics, you conclude that 75% of employees fall below the age of 55. Which quartile do those students fall into? 1 point

*Mark only one oval.*

- ☐ First Quartile, Q1
- ☐ Second Quartile, Q2
- ☐ Third Quartile, Q3
- ☐ Fourth Quartile, Q4

12. Assume that you are the data analyst for a local high school. You have been given the task to identify student success rates in social studies. After digging through the data, you know that of a student population of 500, 65 students did not complete the course. What percentage of students did complete the course successfully? All students either completed the class or didn't complete the class. 1 point

*Mark only one oval.*

- ☐ 12 % of the students in social studies were successful.
- ☐ 87 % of the students in social studies were successful.
- ☐ 91 % of the students in social studies were successful.
- ☐ There is not enough information to determine how many students were successful.

13. The Sales office is asking for data on monthly sales earned. What is the mode in this number sequence for recorded sales: \$12,000, \$12,200, \$12,500, \$13,000, \$17,000, \$17,000, \$17,000, \$21,000, \$22,000, \$22,000, \$22,000, \$22,000? 1 point

*Mark only one oval.*

- ☐ \$12,000
- ☐ \$12, 500
- ☐ \$17,000
- ☐ \$22,000

14. If two-thirds of your weekly income is \$480, what is one-fourth of your weekly income? 1 point

*Mark only one oval.*

- ☐ \$280  
☐ \$140  
☐ \$180  
☐ \$90

15. Your Director of Finance has come to you because the company needs to purchase new software systems and hire more employees to use those systems. Four systems, costing \$5,700 each, were purchased for the sales department. Each system will require the hiring of an operator at a salary of \$1,100 per month. The systems will replace 8 employees. Two employees had a salary of \$750 per month, three employees had a salary of \$650 per month, and three employees had a salary of \$950 per month. How many months will it take your company to recover the cost of the systems? 1 point

*Mark only one oval.*

- ☐ 7 months  
☐ 12 months  
☐ 11 months  
☐ None of the above.

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