



## Competitive Math Assessment - Data Practice Quiz #1

Here are some suggestions for how to practice replicating testing conditions:

- Make sure you have a quiet place to practice on your own for an extended period of time. This will help model the actual experience of a competition. When you have finished the quiz, check your solutions using the online Brilliant quiz.
- Set a timer, or at least keep an eye on the clock to learn your own pace. If you want to set a specific time goal, math competitions provide an average of about 2 minutes per problem, so you should give yourself 30-40 minutes to complete these problems. Keep in mind that the general difficulty of problems increases as you move forward.
- Some competitions allow students to use calculators while others do not. We encourage you to use a calculator only for the most in-depth calculations on this practice quiz.

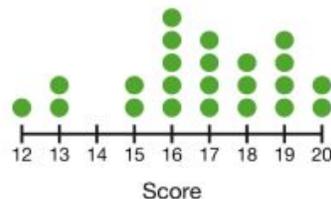
1. \_\_\_\_\_

The data table below shows the number of students in various art classes. What is the mean (average) number of students in an art class?

Class	Students
Painting	14
Print-making	17
Photography	14
Sketching	19

2. \_\_\_\_\_

The data plot below shows the scores various students received on a quiz. What is the median of these scores?





10. \_\_\_\_\_ A set of three numbers has a mean of 5. When the number  $x$  is added to the set, the mean increases to 8. What is  $x$ ?
11. \_\_\_\_\_ The mean, median, and range of a set of four integers is 20. What is the largest integer in the set?
12. \_\_\_\_\_ The set of numbers below has the same mean and median. What is the sum of all possible values of  $n$ ?  
 $\{16, 24, 18, n\}$
13. \_\_\_\_\_ A set of three integers (each either positive or negative) has a largest term of 2, and the sum of the mean and median is 0. What is the smallest term?
14. \_\_\_\_\_ The mean of a set of 6 numbers is  $6k$ . When the largest number is excluded from the least the mean decreases to  $5k$ . If the ratio of the largest number to the sum of the other five is expressed as a fraction  $\frac{a}{b}$  in simplest terms, what is the sum of  $a + b$ ?
15. \_\_\_\_\_ A set of integers  $\{a, b, c, d, e\}$  where  $a < b < c < d < e$  has a range of 12, mean of 10, and median of 7. What is the sum of all possible values of  $d$ ?