UNIT 11 EXERCISES 1-5

STATS MEAN

2002B 1. The arithmetic mean of the nine numbers in the set $\{9,99,999,9999,\ldots,999999999\}$ is a 9-digit number M, all of whose digits are distinct. The number M does not contain the digit

(A) 0 **(B)** 2 **(C)** 4 **(D)** 6 **(E)** 8

2014A 1. What is $10 \cdot (\frac{1}{2} + \frac{1}{5} + \frac{1}{10})^{-1}$?

(A) 3 **(B)** 8 **(C)** $\frac{25}{2}$ **(D)** $\frac{170}{3}$ **(E)** 170

2004A 2. On the AMC 12, each correct answer is worth 6 points, each incorrect answer is worth 0 points, and each problem left unanswered is worth 2.5 points. If Charlyn leaves 8 of the 25 problems unanswered, how many of the remaining problems must she answer correctly in order to score at least 100?

(A) 11 **(B)** 13 **(C)** 14 **(D)** 16 **(E)** 17

2011B 2. Josanna's test scores to date are 90, 80, 70, 60, and 85. Her goal is to raise her test average at least 3 points with her next test. What is the minimum test score she would need to accomplish this goal?

(A) 80 **(B)** 82 **(C)** 85 **(D)** 90 **(E)** 95

2015A 3. Mr. Patrick teaches math to 15 students. He was grading tests and found that when he graded everyone's test except Payton's, the average grade for the class was 80. After he graded Payton's test, the class average became 81. What was Payton's score on the test?

(A) 81 **(B)** 85 **(C)** 91 **(D)** 94 **(E)** 95

2001 4. The mean of three numbers is 10 more than the least of the numbers and less than the greatest. The median of the three numbers is 5. What is their sum?

(A) 5 **(B)** 20 **(C)** 25 **(D)** 30 **(E)** 36

2011A 4. At an elementary school, the students in third grade, fourth grade, and fifth grade run an average of 12, 15, and 10 minutes per day, respectively. There are twice as many third graders as fourth graders, and twice as many fourth graders as fifth graders. What is the average number of minutes run per day by these students?

(A) 12 **(B)** $\frac{37}{3}$ **(C)** $\frac{88}{7}$ **(D)** 13 **(E)** 14

2016A 4. The mean, median, and mode of the 7 data values $60, 100, x, 40, 50, 200, 90$ are all equal to x. What is the value of x?

(A) 50 **(B)** 60 **(C)** 75 **(D)** 90 **(E)** 100

2005A 5. The average (mean) of 20 numbers is 30, and the average of 30 other numbers is 20. What is the average of all 50 numbers?

(A) 23 **(B)** 24 **(C)** 25 **(D)** 26 **(E)** 27

2014A 5. On an algebra quiz, 10% of the students scored 70 points, 35% scored 80 points, 30% scored 90 points, and the rest scored 100 points. What is the difference between the mean and the median of the students' scores on this quiz?

(A) 1 **(B)** 2 **(C)** 3 **(D)** 4 **(E)** 5

2017B 5. The data set $[6, 19, 33, 33, 39, 41, 41, 43, 51, 57]$ has median $Q_2 = 40$, first quartile $Q_1 = 33$, and third quartile $Q_3 = 43$. An outlier in a data set is a value that is more than 1.5 times the interquartile range below the first quartile (Q_1) or more than 1.5 times the interquartile range above the third quartile (Q_3), where the interquartile range is defined as $Q_3 - Q_1$. How many outliers does this data set have?

(A) 0 **(B)** 1 **(C)** 2 **(D)** 3 **(E)** 4