# EXPLORE THE SCORE (TEACHER GUIDE)

### Question 1

Yesenia is preparing for soccer season by running a total of 36 miles per week. If she runs four days a week, how many miles on average does she run each day?

**(A)** 4

**(B)** 6

**(C)** 9

**(D)** 12

**(E)** 36

$$average = \frac{miles}{day} = \frac{36}{4} = 9$$

### Question 2

A cheerleader's final score is determined solely by the average of 8 judges' scores, which are worth 10.0 points each. If Chelsea has an average of exactly 8.8 points from the first 6 judges, how many points must she average from the last 2 judges to earn exactly a final score of 9.0?

**(F)** 9.9

**(G)** 9.6

**(H)** 9.5

**(J)** 9.4

**(K)** 9.2

$$average = \frac{total\ \ points}{number\ \ of\ \ scores} = \frac{6(8.8)+2(x)}{8} = 9.0$$

$$52.8+2x = 72$$

$$2x = 19.2$$

$$x = 9.6$$

### Question 3

During football season, the concession stand sells 30 bags of popcorn at \$3 per bag, 50 hot dogs at \$5 each, 80 soft drinks at \$2 per drink, and 180 candy bars at \$1 each. What is the average amount charged per item?

**(A)** \$2.00

**(B)** \$2.25

**(C)** \$2.50

**(D)** \$2.75

**(E)** \$3.00

$$average = \frac{total\ \$}{number\ \ of\ items}$$

$$= \frac{30(\$3)+50(\$5)+80(\$2)+180(\$1)}{30+50+80+180}$$

$$= \frac{\$680}{340} = \$2.00\ /\ item$$

**Question 4**

An archer hit a target $9$ times. For each arrow, her scores, in order, were $6, 3, 5, 8, 7, 4, 8, 9,$ and $8$. She discovered a scoring error on the 9th shot, and her score on that shot was corrected to $10$. Which of the following measures of central tendency changed as a result of the correction?

I. Mean

II. Median

III. Mode

| | |
|---|---|
| $6, 3, 5, 8, 7, 4, 8, 9, 8$ | $6, 3, 5, 8, 7, 4, 8, 9, 10$ |
| $3, 4, 5, 6, 7, 8, 8, 8, 9$ | $3, 4, 5, 6, 7, 8, 8, 9, 10$ |
| $mean = \mu$ | $mean > \mu \ (b/c \ the \ sum \ increased)$ |
| $median = 7$ | $median = 7$ |
| $mode = 8$ | $mode = 8$ |

**(F)** I only

**(G)** II only

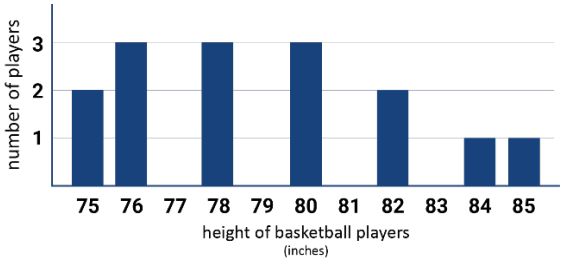
**(H)** I and II only

**(J)** II and III only

**(K)** I, II, and III

**Question 5**

The frequency histogram below shows the distribution of the heights, in inches, of $15$ basketball players.




Using the data from the frequency history gram, what is the sum of the mean and the median of this distribution?

**(A)** 156

**(B)** 157

**(C)** 158

**(D)** 159

**(E)** 160

$$median = 78$$

$$mean = \frac{sum \ of \ heights}{number \ of \ players}$$

$$= \frac{2(75)+3(76)+3(78)+3(80)+2(82)+84+85}{15}$$

$$= \frac{1185}{15} = 79$$

$$sum = (78)+(79) = 157$$