

# M.A.D Lesson Check-In : ANSWERS

MONDAY MARCH 30, 2020

Complete all questions by 5:00 pm today.

\* Required

(1) The Mean Absolute Deviation (M.A.D) of a set of data is \*

Mark only one oval.

- A. the average distance of all the elements from the mean.
- B. the difference between the upper quartile and lower quartile.
- C. the difference between the lower extreme and upper extreme.

(2) Calculate the Mean Absolute Deviation (M.A.D) for the following set of test scores: Class X: 80, 85, 90, 90, 95 \* mean:  $80 + 85 + 90 + 90 + 95 =$

$$440 \div 5 = 88$$

X Scores	Data - Mean	Data - Mean
80	$80 - 88 = -8$	8
85	$85 - 88 = -3$	3
90	$90 - 88 = 2$	2
90	$90 - 88 = 2$	2
95	$95 - 88 = 7$	7

M.A.D.:

$$8 + 3 + 2 + 2 + 7 =$$

$$22 \div 5 = \boxed{4.4}$$

Copy this table onto a piece of paper and use it to help you calculate the M.A.D.

Mark only one oval.

- A. 88 If you chose this, you only calculated the Mean.
- B. 4.4
- C. 22 If you chose this, you only added up the third column, you forgot to divide by 5,.
- D. 15 If you chose this, you calculated the Range of values (highest - lowest).

(3) Calculate the Mean Absolute Deviation (M.A.D) for the following set of test scores: Class Y: 60, 75, 85, 95, 95 \*mean:  $60 + 75 + 85 + 95 + 95 =$

$$410 \div 5 = 82$$

Y Scores	Data - Mean	Data - Mean
60	$60 - 82 = -22$	22
75	$75 - 82 = -7$	7
85	$85 - 82 = 3$	3
95	$95 - 82 = 13$	13
95	$95 - 82 = 13$	13

M.A.D:

$$22 + 7 + 3 + 13 + 13 =$$

$$58 \div 5 = \boxed{11.6}$$

Copy this table onto a piece of paper and use it to help you calculate the M.A.D.

Mark only one oval.

- A. 35 If you chose this, you calculate the Range of values (highest - lowest).
- B. 82 If you chose this, you calculated the Mean.
- C. 58 If you chose this, you only added up the third column and forgot to divide by 5.
- D. 11.6

(4) What conclusion can be drawn by comparing the M.A.D of class X to the M.A.D of class Y? \*

Mark only one oval.

- A. Class X has a smaller M.A.D and therefore the class scores are more spread apart.
- B. Class X has a larger M.A.D and therefore the class scores are more spread apart.
- C. Class Y has a smaller M.A.D and therefore the class scores are more spread apart.
- D. Class Y has a larger M.A.D and therefore the class scores are more spread apart.

$$\text{Class X M.A.D.} = 4.4$$

$$\text{Class Y M.A.D.} = 11.6$$

The larger the M.A.D., the more spread apart the data is.