ALG 2   SAT/PSAT   practice   Fri, March 20, 2020

14

Lengths of Fish (in inches)						
8	9	9	9	10	10	11
11	12	12	12	12	13	13
13	14	14	15	15	16	24

The table above lists the lengths, to the nearest inch, of a random sample of 21 brown bullhead fish. The outlier measurement of 24 inches is an error. Of the mean, median, and range of the values listed, which will change the most if the 24-inch measurement is removed from the data?

A) Mean

B) Median

C) Range

D) They will all change by the same amount.

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ANSWERS

14

Lengths of Fish (in inches)						
8	9	9	9	10	10	11
11	12	12	12	12	13	13
13	14	14	15	15	16	24

= sum of all 21 #'s = 262

w/o outlier sum = 238

The table above lists the lengths, to the nearest inch, of a random sample of 21 brown bullhead fish. The outlier measurement of 24 inches is an error. Of the mean, median, and range of the values listed, which will change the most if the 24-inch measurement is removed from the data?

A) Mean

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	WITH OUTLIER	w/o OUTLIER	
Range	$24 - 8 = \underline{16}$	$16 - 8 = \underline{8}$	Biggest change — CHANGE OF 8
Median	21 #'s median is 11th # $\underline{12}$	20 #'s median is avg of 10th & 11th # which are both 12, median = $\underline{12}$	NO CHANGE
Mean	$\frac{262}{12} = 21.8$	$\frac{238}{11} = 21.6$	CHANGE OF 0.2