Mean Absolute Deviation

Suppose the dot plot on the left shows the number of goals a boys' soccer team has scored in six games so far this season and the dot plot on the right shows the number of goals a girls' soccer team has scored in six games so far this season. The mean for both of these teams is 3.

Dot Plot of Number of Goals Scored by Boys' Team

Dot Plot of Number of Goals Scored by Girls' Team

a) Before doing any calculations, which dot plot has the larger MAD? Explain how you know.

b) Use the following tables to find the MAD for each distribution. Round your calculations to the nearest hundredth.

Boys' Team	
Number of Goals	Absolute Deviation
0	
0	
3	
3	
5	
7	
Sum	

Girls' Team	
Number of Goals	Absolute Deviation
2	
2	
3	
3	
3	
5	
Sum	

b) Based on the computed MAD values, for which distribution is the mean a better indication of a typical value? Explain your answer.

Mean Absolute Deviation

Suppose the dot plot on the left shows the number of goals a boys' soccer team has scored in six games so far this season and the dot plot on the right shows the number of goals a girls' soccer team has scored in six games so far this season. The mean for both of these teams is 3.

Dot Plot of Number of Goals Scored by Boys' Team

Dot Plot of Number of Goals Scored by Girls' Team

a) Before doing any calculations, which dot plot has the larger MAD? Explain how you know.

The graph of the boys' team has a larger MAD because the data are more spread out and have the larger distances from the mean.

b) Use the following tables to find the MAD for each distribution. Round your calculations to the nearest hundredth.

Boys' Team	
Number of Goals	Absolute Deviation
0	3
0	3
3	0
3	0
5	2
7	4
Sum	12

Girls' Team	
Number of Goals	Absolute Deviation
2	1
2	1
3	0
3	0
3	0
5	2
Sum	4

The MAD for the boys' team is 2 goals because $\frac{12}{6} = 2$. The MAD for the girls' team is 0.67 goal because $\frac{4}{6} \approx 0.67$.

b) Based on the computed MAD values, for which distribution is the mean a better indication of a typical value? Explain your answer.

The mean is a better indicator of a typical value for the girls' team because the measure of variability given by the MAD is lower (0.67 goal) than the boys' MAD (2 goals).