

In these activities you will work together to use the mean absolute deviation to describe the deviation from the mean. After completing each activity, discuss and/or present your findings to the rest of the class.



and you know that:

Activity [Page 1.3]
Create a distribution of the number of goals each team scored so that the total number of goals remains 54, and the following conditions hold: Each of the teams scored at least 1 goal, no team scored more than 10 goals during the tournament,

Select one of the following conditions (or your teacher will assign):

- a. One team scored 6 goals, and another team scored 9 goals.
- b. Two teams scored 10 goals.
- c. No team scored 6 goals, and one team scored 3 goals.
- d. Three teams scored 1 goal; at least two teams scored 9 goals.
- e. No team scored 6 goals; three teams scored 1 goal.
- f. Two teams scored 6 goals; two teams scored 8 goals.
- g. Two teams scored only 1 goal; three teams scored 10 goals.

5/3

Name	
Class	

2. a. Write a description of what you learned by doing and discussing the task in question 1.

b. If you used your method on the distribution that has all of the teams scoring six goals, what would be the sum of the distances from the mean? Explain why your answer makes sense.



- 1. Without having any more than three of the dots at the same place, move the dots to balance the number line when the fulcrum is at 8.
 - a. Make a conjecture about what the fair share would be, and then check your work.
 - b. What is the sum of the absolute deviations from the balance point?
- 2. Check your work for question 1 using page 1.4.



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Activity 3 [Pages 2.2 and 2.4]

- 1. Use one of the pages from the activity to create a distribution where the MAD is:
 - a. 1
 - b. 5
 - c. 0
- 2. Which of the statements below are true? Explain your reasoning.
 - a. The larger the MAD, the smaller the spread of a distribution.
 - b. If the MAD is small, the values in the distribution are relatively clustered around the mean.
 - c. The mean is a point at which the values in a distribution below the mean "balance" the values in the distribution above the mean in terms of distance from the mean.
 - d. If the mean is 5, then a deviation from the mean of 2 would indicate the value is at 7.

- 3. The MAD is often described as the typical distance of a data value *from the mean*. This is the interval between the mean minus the MAD and the mean plus the MAD, i.e., mean +/- MAD.
 - a. If the mean is 5 and the MAD is 2, describe the interval 1 MAD from the mean.
 - b. If one MAD from the mean is the interval from 5 to 11, what is the mean? The MAD? Explain how you found your answer.



1. Reset and choose Data Set 3 for the number of correct points for students in four classes from a different school. Rank these classes in terms of the number of correct points. Give reasons for your ranking.