

# The Average and Standard Deviation

Measures of center and spread

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## The Average

$$\text{Average} = \text{Mean} = \frac{\text{Sum of Observations}}{\text{Number of Observations}}$$

## The Median

The middlemost number in the list

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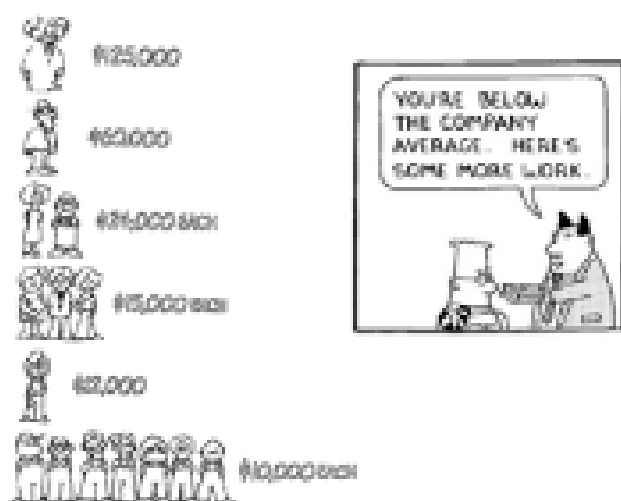
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What's the Average Salary?  
The Median Salary?



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## Be Careful What You Average

A class has three sections. On a midterm the first section averaged 68, the second averaged 70 and the third averaged 72. What was the class average?

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A school has two classes, one with 10 students and one with 100 students.

What is the average class size?

There are 110 students. What is the average size of the class that a student is enrolled in?

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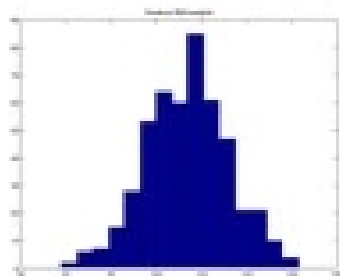
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## Using Averages to Compare: Birthweights

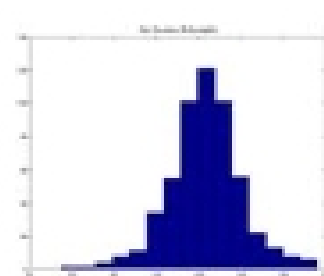
smokers



Average = 114

Median = 115

non-smokers



Average = 123

Median = 124

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