**Missing Value Notes**

Vocabulary Review

**Mean**: the balance point or **average** of a data set

How to find the mean:

 1) Add up all of the values in the data set

 2) Divide the sum by how many values there are in the data set

**Missing Value**: the number that you need in a data set in order to reach a specific mean

**Example Problem:**

Edward is training for 4 weeks to prepare for a road race. He has run for 3 weeks so far. The distances he ran during his first 3 weeks are shown in the table below.

|  |  |
| --- | --- |
| **Week** | **Distance (in miles)** |
| 1 | 38 |
| 2 | 47Missing Value |
| 3 | 42 |
| 4 | ? |

What distance must Edward run in his 4th week in order to have a mean running distance of 40 miles for his 4 weeks of running?

Mean

Steps for finding a missing value:

1. Place the given data points in each box on the left side of the scale (include a box for the unknown value)

 ?

42

47

38

1. Put the desired mean in each box on the right side of the scale

 ?

42

47

38

40

40

40

40

 40

 40

 40

+40

160

1. Add up the right side
2. Add up the left side

 38

 47

+42

127

1. Find the difference between the two sides.

 Miles Needed 160

-Miles So Far 127

 Run #4 33