Target Mean and Magic Sum

Terms:
Target Mean - the desired mathematical average of a set of numbers
"**Magic Sum**" - the sum of values in a data set that gives a specific mean

Objective:
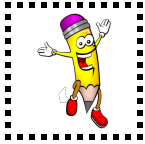You will learn to find the "magic sum" for a set of data.
You will learn to use the "target mean" to find a missing value in a set of data.

- What if we want to know what missing value needs to be added to the number set {25, 27, 32, 38} so that the mean is 30?

Steps:

1. Identify the mean you want.	Target Mean = 30
2. Multiply the mean by the number of values in the data set.	$30 \times 5 = 150$ ↳ Magic sum
3. Add the given values in the set.	Number Set: 25, 27, 32, 38, ? 25+27+32+38 = 122
4. Subtract that sum from the magic number.	150 - 122 = 28 Adding a value of 28 will make the mean of the data set 30.

Examples:

Ex. 1 Kate wants to have a test average of 90 in her math class this term.

Her four test scores so far are: 91, 84, 87, 92

What does she need to get on her fifth test to have a mean of 90?

$90 \times 5 = 450 \leftarrow$ magic number

$91 + 84 + 87 + 92 = 354$

$450 - 354 = 96$

To get a test average of 90, Kate needs to score a 96 on her fifth test.

YOU GOT THIS:

1) Goals for Alex's soccer team

Alex's soccer team scored this number of goals in each soccer game this year:

$$1, 2, 0, 1, 3, 3, 0, 4, 2$$

How many goals must they score in their last game if they want to end the season with an average of 2 goals per game?