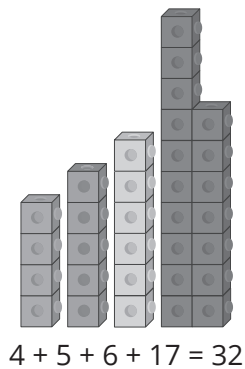## (2) The Mean

What Is a Mean?

- The mean of a set of data is a number that represents an average or typical piece of data.
- The mean may be a piece of data in the set or it may not.
- The mean represents the centre of the data.

The median and the mode can also represent the centre of the data.

How Do You Represent the Mean?

You can represent the mean by gathering all of the data in the set and sharing it equally among the number of pieces of data.

For example, to calculate the mean of the data set 4, 5, 6, 17, you put all four numbers together:

$$4 + 5 + 6 + 17 = 32$$

Then you share 32 equally among all 4 pieces of data:

$$32 \div 4 = 8$$
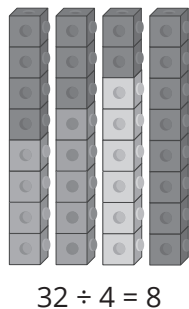
How Do You Calculate the Mean?

To calculate the mean, you can add all of the data values together and divide by the number of pieces of data.

For example, for the data set 4, 5, 9, 9, 8:
Step 1: Add all of the data values together:
4 + 5 + 9 + 9 + 8 = 35
Step 2: Divide the total by the number of pieces of data:
35 ÷ 5 = 7
The mean of the set of data is 7.

Evening out groups of blocks is like sharing data equally, and that's what division is all about.

Using the Mean to Describe a Set of Data

You can describe a data set in terms of its mean; for example, you can say:
• whether most values are close to the mean
• whether the mean is closer to the least value or the greatest value

For example, for the data shown in this graph, most data values are well below the mean.

Number of Messages I Sent
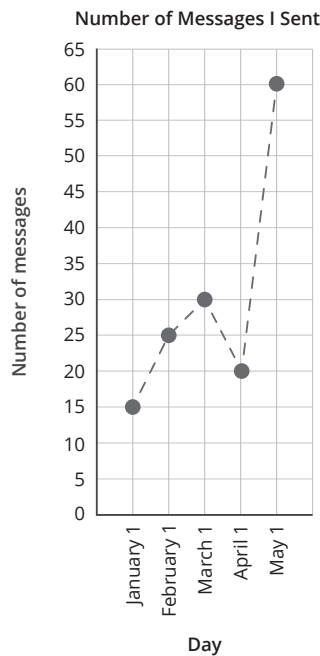
I sent 15 + 25 + 30 + 20 + 60 = 150 messages in 5 days.
The mean number of messages I sent is 150 ÷ 5 = 30.

Definitions

mean: one measure of the centre of a set of data, sometimes called average, determined by sharing all the data values equally among the number of values; for example, the mean of the data 3, 5, 7, 10, 15 is (3 + 5 + 7 + 10 + 15) ÷ 5 = 8

median: the middle number of a set of data that is ordered from least to greatest, sometimes called average; for example, 7 is the median of this set of data: 3, 5, 7, 10, 15

mode: the number that occurs most often in a set of numeric data, some data sets have no mode, some have one, and some have more than one; for example, 6 is the mode of this set of data: 5, 6, 6, 6, 8, 10, 10