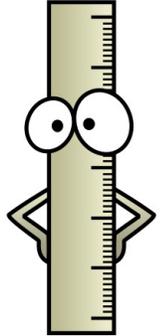# S.M.ART School MAB2 Group   due 09-28-2022

M1   A piece of wood is 4 feet and 5 inches long. They cut off 3 feet and
      3 inches. How many inches are remains?

M2   A piece of wood is 17 feet and 7 inches long. They cut off 14 feet and
      6 inches. How many inches are remains?

M3   Andrew can buy 5 candy bars for 55 cents. How much will he pay for
      8 candy bars?

M4   Andrey can buy 4 candy bars for 64 cents. How much will he pay for 7
      candy bars?

Real number line and arithmetic of signed numbers

Set of all numbers can be visualized as a straight line on a plane, with one
special point called "origin". It extends infinitely in both directions from the
origin.

There is a unit of length, associated with the line, and so each point of the line corresponds to a number, which is determined by the distance from origin and position relative to the origin.

The origin corresponds to the number 0 (zero). Points on the right side of zero determine "positive" numbers, points on the left side are called "negative" numbers.

Real number line
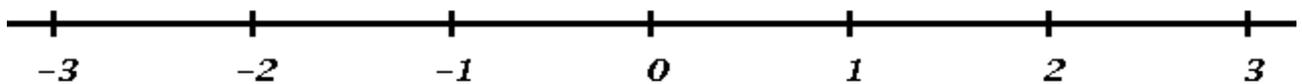
For example, A positive number 3 corresponds to a point 3 units away from the origin to the right, and a negative number *-3* corresponds to a point on the line 3 units away from the origin to the left.

Two numbers are **opposite** to each other if and only if they are on the same distance from zero but one of them is positive and another is negative.

Integers. Consider the set of all whole numbers and their opposites. This set is called set of integers. Thus, integers are 0, 1, -1, 2, -2, 3, -3,   …. and so on.

Rule of addition

We know very well what it means to add whole numbers to each other. Now we introduce addition for all integers. Let's say you have number X. Basic idea is that when you add a positive number to X, - let's say you are adding 5 to X, - then you have to make 5 steps to the right (the resulting number is 5 more than original one). If you are adding -5 to number X, then you make 5 steps to the left starting at point X (the resulting number is 5 less than original one).

Thus, when we add positive number, then we walk to the right on the number line; when we add negative number, then we walk to the left on the number line.

S1   During the week, the temperature rose from –37-degree F to +24-degree F. How many degrees did the temperature rise?

S2   During the evening the temperature was –14-degree F. By morning, the temperature was -23-degree F. How many degrees did the temperature fall overnight?

C1   34 + (-15) =   - 34 + (-15) =

C2   334 + (-315) =   - 334 + (-315) =

C3   -18 + 21 =   -118 + 21 =

C4   -118 + (-21) =   -28 + (-21) =

Find all possible values of x, so that the following statements are true

E1   288 / x = 9   E2   288 / x = 12

E3   288 / x = 24   E4   288 / x = 48

Instead of symbol " & "   put either " + " or " − " or " * (multiply) or   " / " (divide)

Q1   (7 & 2) & 6 = 30

Q2   7 & 3 & 2 = 1

Q3   7 & 2 & 12 = 31

Q4   7 & 3 & 2 = 2