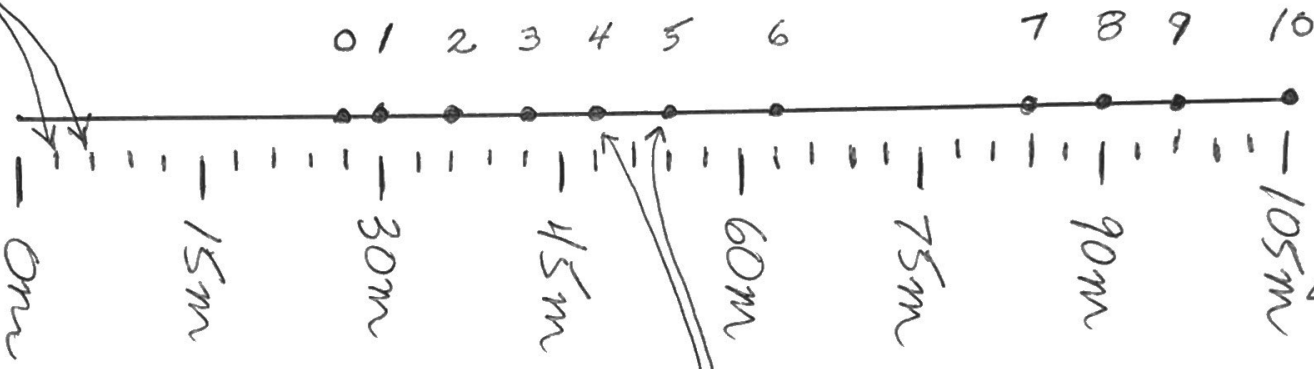
the small ticks are 3m apart

Sideline of a 105m int'l soccer field



m is short for meters

(Inspired by Lionel Messi run against Spain, 2010.)

the 11 positions of the ball are 1s apart

s is short for seconds

The game clock reads 62:18 = 3738s when Messi begins the run.

Fill in this table:

(I have done the first few rows.)

	time	x-position
0	3738s	27m
1	3739s	30m
2	3740s	36m
3	3741s	
4		
5		
6		
7		
8		
9		
10		

Messi accelerates ball kicked down field

kicked into goal

Fill in the following table

	Δt	Δx	$v = \Delta x / \Delta t$
$0 \to 1$	$3739s - 3738s = 1s$	$30m - 27m = 3m$	$3\,m/s$
$1 \to 2$	$3740s - 3739s = 1s$	$36m - 30m = 6m$	$6\,m/s$
$2 \to 3$			
$3 \to 4$			
$4 \to 5$			
$5 \to 6$			
$6 \to 7$			
$7 \to 8$			
$8 \to 9$			
$9 \to 10$			

We can compute an average velocity using any two times.

What is the average velocity for position $0 \to 10$?

$$v = \frac{105m - 27m}{3748s - 3738s} = \frac{\quad}{\quad}\ \frac{m}{s}$$

↖ Use calculator to fill in.