Estimation of Distance Travelled by Timing

If you know how fast you are walking you can work out how long it will take to walk from your starting point to your objective.

Time and Distance Table. Time Taken in minutes for a range of walking speeds and distances up to 1000 metres

Distance	Speed KPH			
	3	**4**	**5**	**6**
1000	*20*	*15*	*12*	*10*
900	*18*	*13.5*	*10.8*	*9*
800	*16*	*12*	*9.6*	*8*
700	*14*	*10.5*	*8.4*	*7*
600	*12*	*9*	*7.2*	*6*
500	*10*	*7.5*	*6*	*5*
400	*8*	*6*	*4.8*	*4*
300	*6*	*4.5*	*3.6*	*3*
200	*4*	*3*	*2.4*	*2*
100	*2*	*1.5*	*1.2*	*1*

If we say that you are at a stream junction and you want to get to a building that is 1.5 km away when measured on the map. You reckon you will walk at a speed of 3kph, Therefore if it takes 1 hour to travel 3km, it will only take half the time to travel half the distance, 1.5km. In other words it will take you half an hour. So after walking for thirty minutes you stop and look around and as if by magic you should see your building.
It may sound easy but there are a few things you need to consider. First of all it is not easy to estimate how fast you are likely to walk over a given stretch of country. All sorts of factors affect your speed over the ground

HEIGHT CLIMBED
This is probably the most obvious factor which will affect your speed. You are likely to go a lot faster downhill than you will slogging your way up a steep mountainside. So you then have to make some allowance for this variation of terrain. The basic formula for this being **NAISMITH'S RULE,** This was originally expressed as 3 miles per hour plus 30 minutes for every 1000 feet of climbing. In metric terms this is expressed as 5 kph plus 30 minutes per 300 metres (or 1 minute for every 10 metre contour you climb) and is still as applicable today as it was when thought of over 100 years ago, provided you appreciate that this is an average time for a days walking by a reasonably fit hill walker.

DESCENDING
For most cases the rate of descent is ignored as the natural increase in speed is countered by the slower uphill sections of walking.

FITNESS

Fitness is an important factor where groups of young people are involved and a due allowance must be made for this. Also you must remember that a party can only travel at the speed of its slowest member, therefore a speed of 4kph plus 1 hour for every 450 metres of climbing is a more realistic estimate for such a group.

LOAD

A heavy pack can have the effect of reducing progress by upto 50% of the unladen speed and taking into account additional rest periods as well as speed over the ground it is best to allow for this simply by estimating a slower speed.

TERRAIN

This is one thing over which you have no control and which can reduce your speed to a snails pace. It is not always possible to tell from a map how just how rough the ground will be. A boulder field, thick woodland, snow, boggy ground and many other factors can reduce your performance dramatically. Here you must allow for slower progress across such terrain.

FILLING IN YOUR ROUTE CARD

When filling in your route card for this event, you need to remember .

1. This is part of the competition scoring, points will be lost for being wildly inaccurate, not being easily read by the scorers, etc. (NB. If it is found to be very poorly filled in you will be asked to re-do it at your District Briefing)

2. Please be honest with yourselves, It is not worth filling it in saying that you walk at 2kph when you really walk at 4kph and allowing yourself time to sit and rest just before you reach a checkpoint. Again any route card obviously filled in this way will be asked to be re-done. If you are booking rest times into the route **THEY MUST BE TAKEN AT A CHECKPOINT.**

3. You are expected to fill in the escape routes as you would for any other hike. BUT for the purpose of this event you will go to the nearest checkpoint in ANY emergency situation.

Scouts
West Lancashire