Student 5: Low Achieved

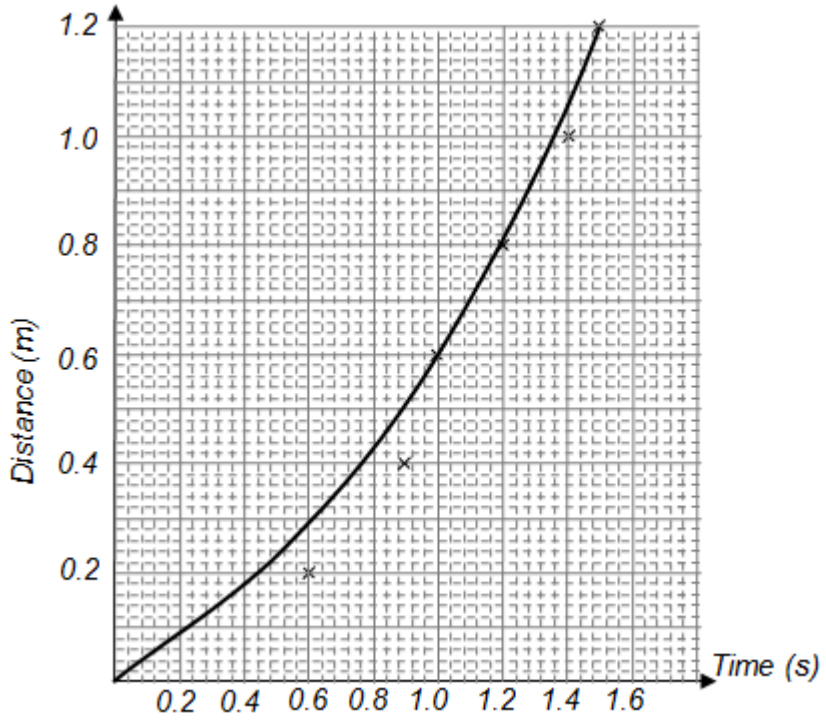
Aim: *To find a relationship between the distance travelled by a marble down a ramp and the time taken.*

Method

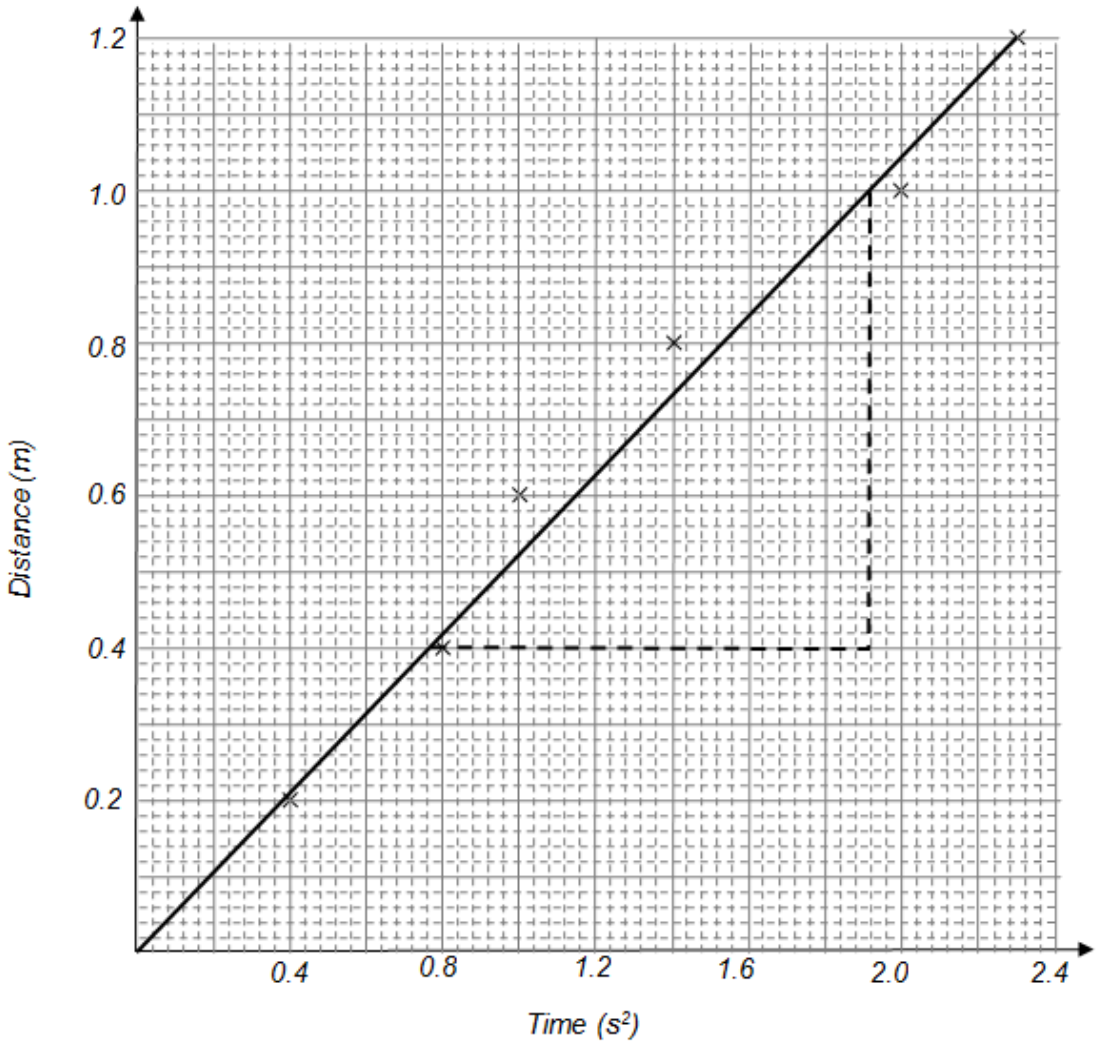
Set the top of the ramp to an appropriate height, in this case 0.281 m. I checked for zero error and it was 0.005, so I subtracted it from the distance measured from the bench to the mark where the marble was going to be rolled from.
When distances the marble travels are measured parallax errors must be avoided.

Results

Distance (m)	t_1 (s)	t_2 (s)	t_3 (s)	t_{ave} (s)	T^2
	(1)			(2)	
0.200	0.65	0.60	0.65	0.6	0.4
0.400	0.82	0.90	0.91	0.9	0.8
0.600	1.00	1.04	1.03	1.0	1.0
0.800	1.15	1.20	1.25	1.2	1.4
1.00	1.41	1.39	1.40	1.4	2.0
1.20	1.60	1.48	1.35	1.5	2.3



y is proportional to x^2 which means that distance is proportional to time^2 (3)



$$gradient = \frac{rise}{run} = \frac{1.0 - 0.4}{1.92 - 0.76}$$

$$gradient = \frac{1.16}{0.6} = 1.9$$