

Acceleration Lab

Name _____

Date _____

Period _____

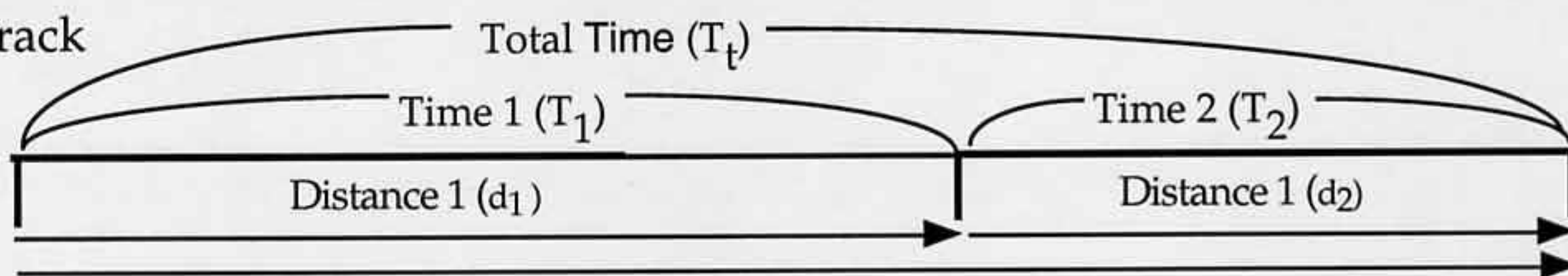
Calculating Acceleration

For this Lab Assume Constant Acceleration

Background Information Acceleration is the rate of change of velocity.

Acceleration = $\frac{\Delta \text{Velocity}}{\Delta \text{Time}} = \frac{\text{Final Velocity} - \text{Original Velocity}}{\text{Time}}$ Velocity = $\frac{\Delta \text{Position}}{\Delta \text{Time}}$ and Direction

Race Track



Start

Distance 1 (d_t)

Finish

Time 0.00 s

(T_1) _____ s

(T_2) _____ s

(T_t) _____ s

Distances 0 meter

(d_1) _____ m

(d_2) _____ m

(d_t) _____ m

Data & Observations:

1. Calculate Time T_1 T_2 and T_t Enter into the Data Table

| Race | Race Times (sec.) | |
|------|-------------------|-----------|
| | (T_1) | (T_t) |
| 1 | | |
| 2 | | |
| 3 | | |
| | Ave. | Ave. |
| | | |

Average Race Times

| T_1 (_____ m) | T_2 (_____ m) | T_t (_____ m) |
|------------------|------------------|------------------|
| | | |

2. Calculate Distances d_1 d_2 and d_t Enter into the Data Table

Distances

| d_1 Section | d_2 Section | d_t Section |
|---------------|---------------|---------------|
| | | |

3. Calculate Velocity

Velocity

| | T_1 d_1 Section | T_t d_t Section |
|------------------|---------------------|---------------------|
| Average Velocity | | |
| Final Velocity | | |