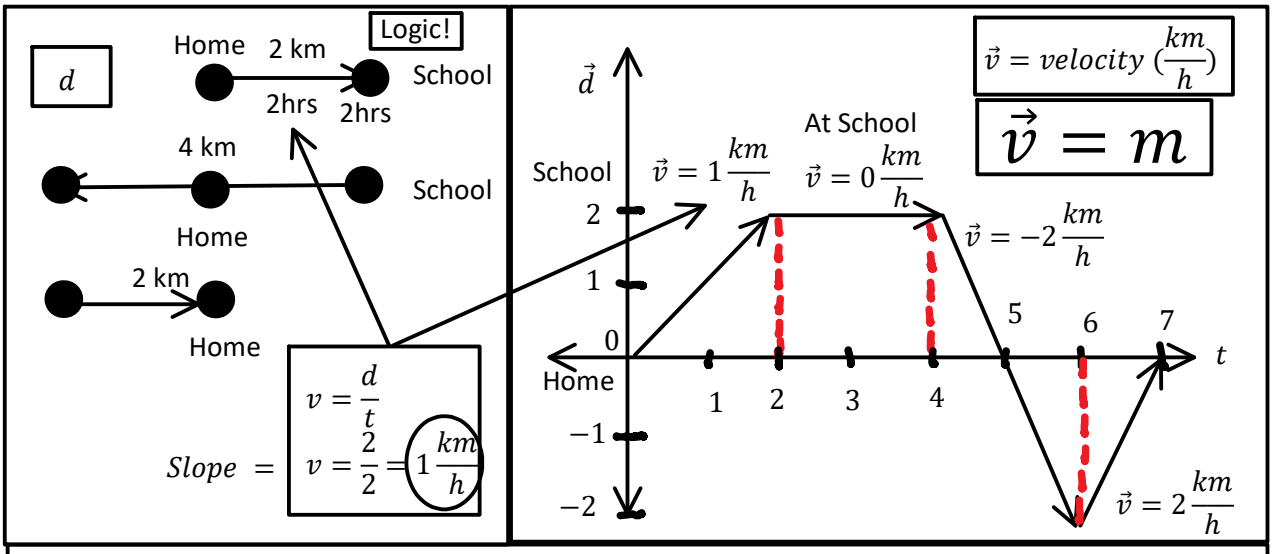
P11 - 1.0 - d , $\vec{d}$ vs t notes

$d = distance\ (s^*)$
$\vec{d} = Displacememt\ (v^*)$

You walk East straight to school at 1 km/h for 2km. You're at school for 2 hrs. You turn around and run 2km/h 2km past home then back home.

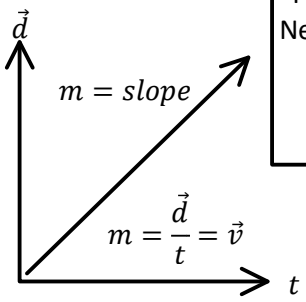


Distance

t	d
0	0
1	1
2	2
3	2
4	2
5	4
6	6
7	8

Displacement

t	$\vec{d}$
0	0
1	1
2	2
3	2
4	2
5	0
6	−2
7	0



Velocity : Slope
Constant Velocity : Straight Line
Zero Velocity : Horizontal Line
Positive Velocity : Slope Up
Negative Velocity : Slope Down
Speeding Up : Getting Steeper
Slowing Down : Getting Flatter
Curve Velocity : Draw a Tangent!

$(+ve\ , -ve)$

$m = \frac{d}{t} = s$

$s = |v|\ ; Always +$

$m = \frac{\vec{d}}{t} = \vec{v}$

$\vec{d} = \vec{d} + \vec{v}t$
$y = mx + b$

Distance vs Time

$s_{ave(0,7)} = \frac{8-0}{7-0}$

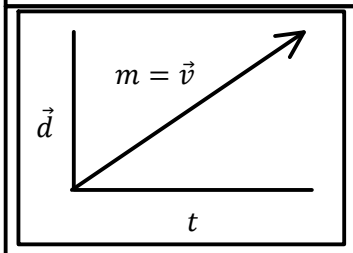
$s_{ave(0,7)} = 1.14\frac{km}{h}$

Displacement vs Time

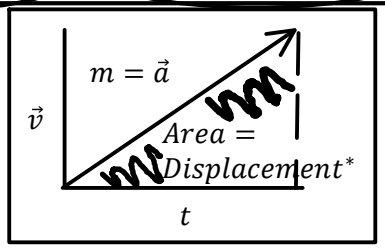
$\vec{v}_{ave(0,4)} = \frac{2-0}{4-0}$

$\vec{v}_{ave(0,4)} = 0.5\frac{km}{h}\ [E]$

$m = \frac{\vec{d}_2 - \vec{d}_1}{t_2 - t_1}$



$m = \frac{\vec{d}}{t} = \vec{v}$



$m = \frac{\vec{v}}{t} = \vec{a}$

$A = lw$
$A = \vec{v}t$
$A = \vec{d}$