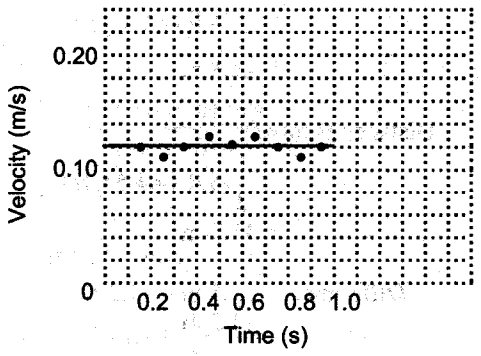
c) Velocity-Time Graph



d) slope $= \dfrac{\text{rise}}{\text{run}}$

$= \dfrac{(0.12-0)\text{ m}}{(1.0-0)\text{ s}}$

$= 0.12$ m/s right

e) displacement = area

area $= l \times w$

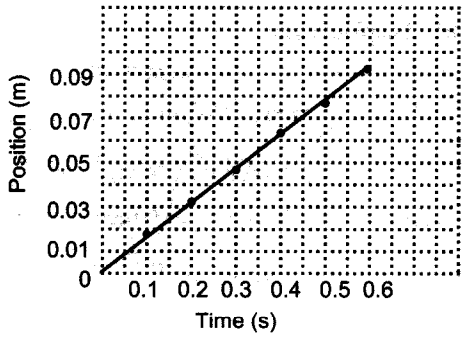
$= (0.95\text{ s})(0.12\text{ m/s})$

$= 0.11$ m right

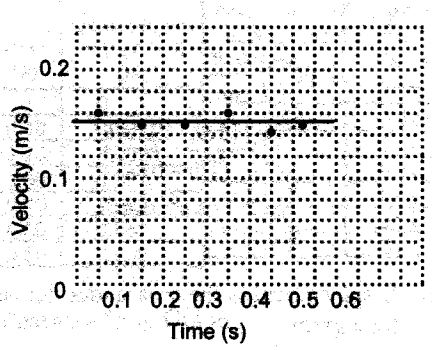
14. a)

time (s)	displacement from t = 0 (m)	displacement during time interval (m)	average velocity during time interval (m/s)
0	0		
0.10	0.016	0.016	0.16
0.20	0.031	0.015	0.15
0.30	0.046	0.015	0.15
0.40	0.062	0.016	0.16
0.50	0.076	0.014	0.14
0.60	0.091	0.015	0.15

b) Position-Time Graph



c) Velocity-Time Graph



d) i) velocity = slope of position-time graph

slope $= \dfrac{\text{rise}}{\text{run}}$

$= \dfrac{(0.084-0)\text{ m}}{(0.55-0)\text{ s}}$

$= 0.15$ m/s

ii) displacement = area of velocity-time graph

area $= l \times w$

$= (0.55\text{ s})(0.15\text{ m/s})$

$= 0.084$ m

Lesson 3 Acceleration

1. a) b) Answers will vary according to your data.

2. a) Draw a tangent line at 0.40 s
Find the slope of this tangent line.

slope $= \dfrac{\text{rise}}{\text{run}}$

$= \dfrac{(5.0-1.0)\text{ m}}{(0.64-0.30)\text{ s}}$

$= 12 \pm 1$ m/s east

b) Draw a tangent line at 0.60 s
Find the slope of this tangent line.

slope $= \dfrac{\text{rise}}{\text{run}}$

$= \dfrac{(9.0-2.0)\text{ m}}{(0.90-0.38)\text{ s}}$

$= 13 \pm 2$ m/s east