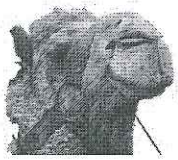
10/30/2013



S10 Unit B: Graphing Uniform Motion

Name: Key

Date: Nov. 15/13

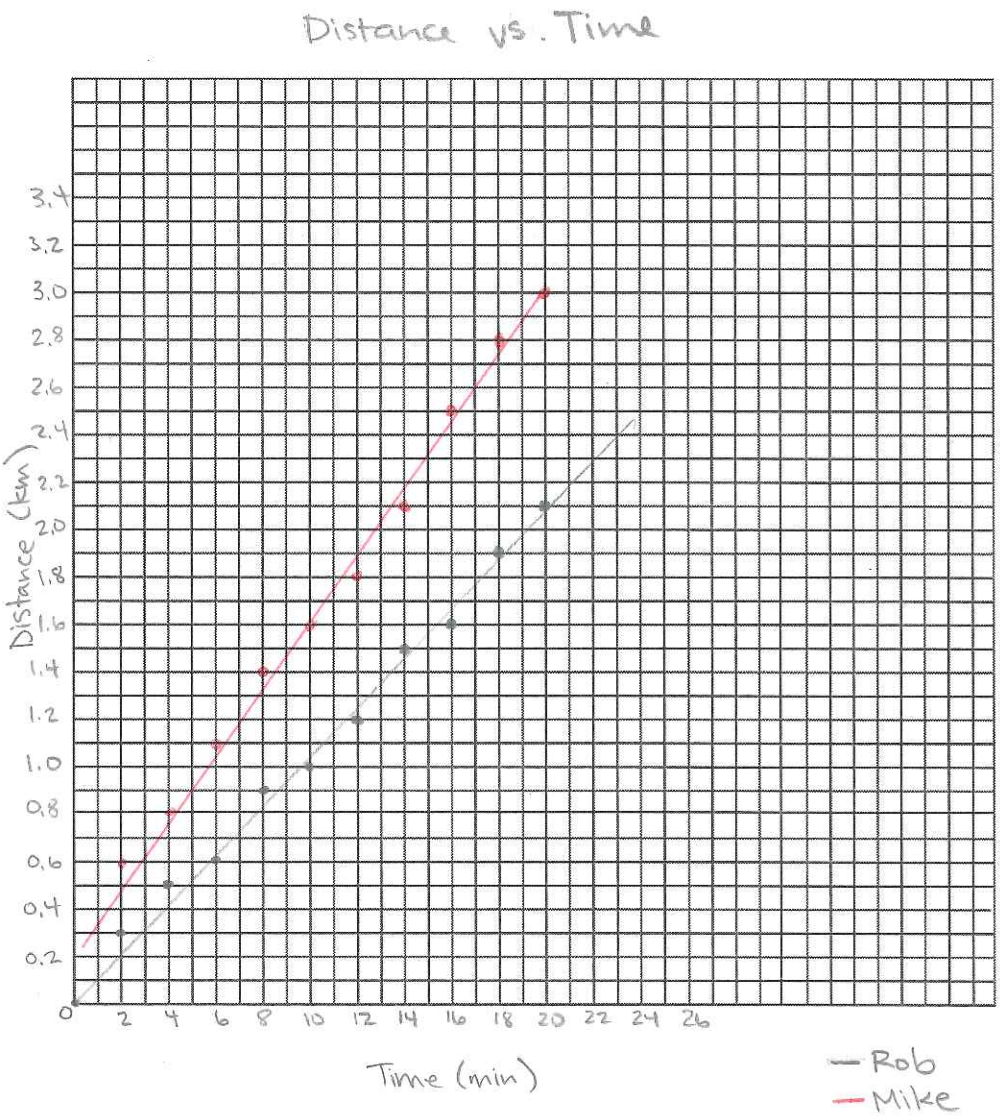
1. Graph the data below on the same axis. Use the graphing guidelines discussed in class. Label each line.

Rob's Running Data:

Time (min)	Distance (km)
0	0
2	0.3
4	0.5
6	0.6
8	0.9
10	1
12	1.2
14	1.5
16	1.6
18	1.9
20	2.1

Mike's Running Data:

Time (min)	Distance (km)
0	0
2	0.6
4	0.8
6	1.1
8	1.4
10	1.6
12	1.8
14	2.1
16	2.5
18	2.8
20	3.0



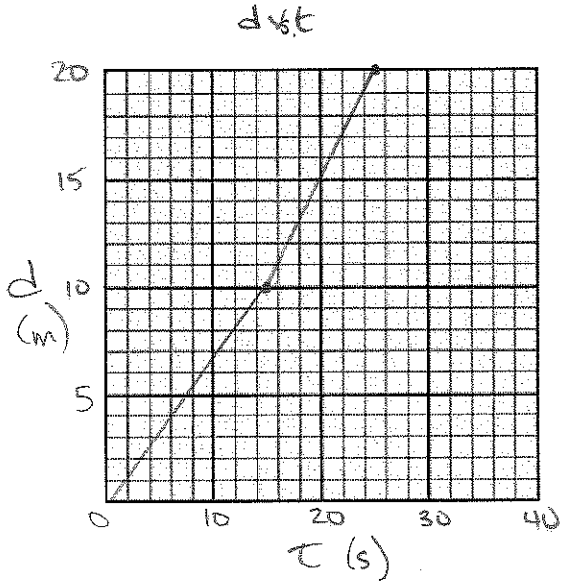
2. Calculate the slope of the line for each runner. You must choose two points on the line of best fit. Include units in your answer. What does the slope represent on these graphs?

	ROB	MIKE
$m = \frac{y_2 - y_1}{x_2 - x_1}$ or $\frac{\Delta d}{\Delta t}$	$m = \frac{1.9\text{km} - 1.0\text{km}}{18\text{min} - 10\text{min}} = \frac{0.9\text{km}}{8\text{min}}$	$m = \frac{3.0\text{km} - 1.6\text{km}}{20\text{min} - 8\text{min}} = \frac{1.4\text{km}}{12\text{min}}$
formula	$= 0.11\ \text{km/min}$	$= 0.12\ \text{km/min}$
	substitution and algebra	*substitution and algebra*

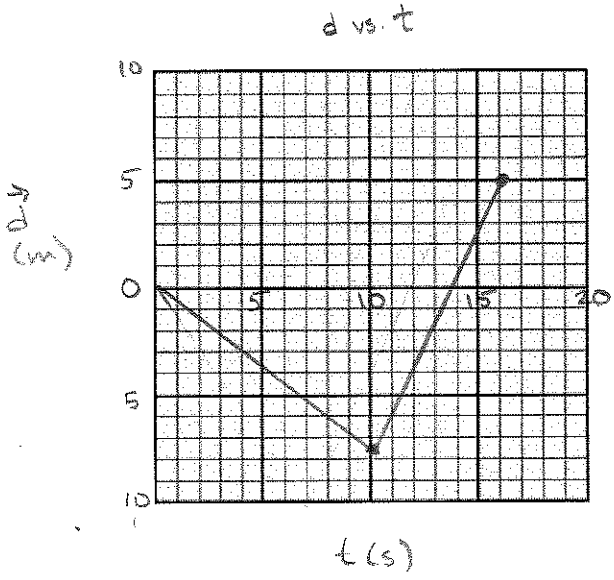
slope represents speed

3. Create a distance vs. time graph for each description below:

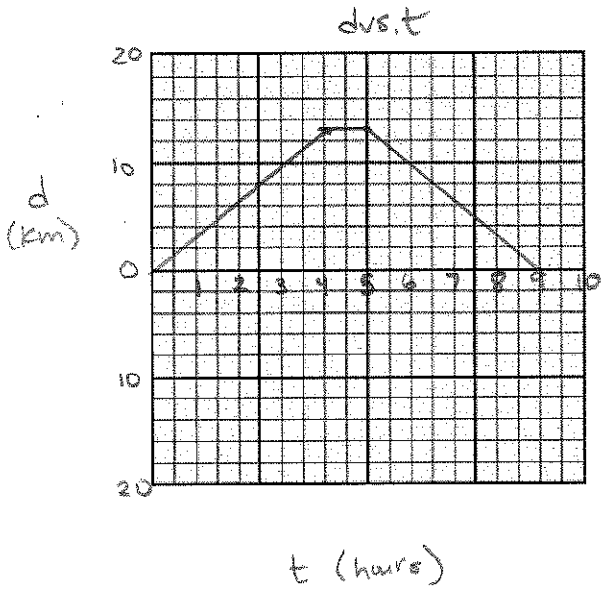
a) Moving 10 m east in 15 s, then moving 10 m east in 10 s.



b) Moving 7 m west in 10 s, then moving 12 m east in 6 s.



c) Moving 13 km north in 4 h, stopping for 1 h, then moving 13 km south. in 4h



d) Moving at 100 km/h north for 4 hours.