12/06 **Representing Motion** #5

Agenda
- entrance task
- Walk/run graph
- graphing Motion.

On white boards

Mrs frearson drove to the Summit to ski and it took her 45 mins (0.75hrs). The distance she travelled was 25 miles.

1. How fast did she drive?
2 After skiing she drove at the same speed for 3 more hours. How far did she travel on the second leg?

m/hr

1) Write equation
2) Substitute with units
3) Solve
4) Box answer with units

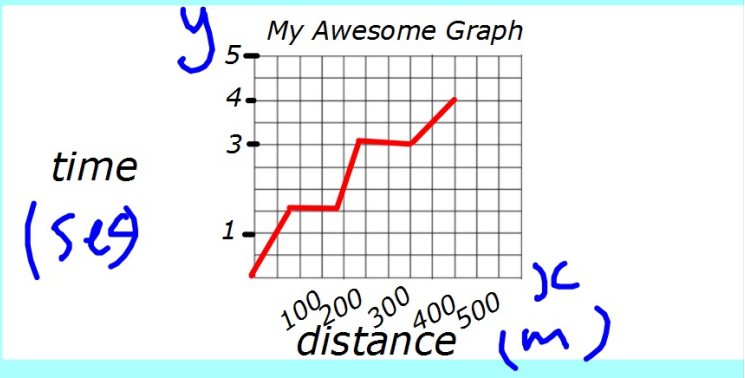
Learning Target: I can use a graph to show the motion of an object.

12/07 Representing Motion #5

Today you will need a ruler and graph paper.

We will be drawing a line graph using total distance and total time data from yesterday's "Walk, Run, Race".

What is wrong with the graph shown below:

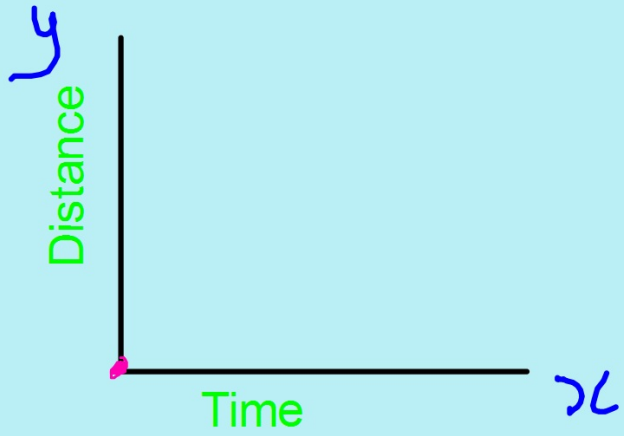


Learning Target: I can use a graph to show the motion of an object.

12/07 **Representing motion** **#5**

What are the 6 graphing reminders?

Graphing distance against time can tell you about a journey



Graphs need

1. Title
2. Labled axis with units
3. Even intervals
4. Data points
5. Ruler

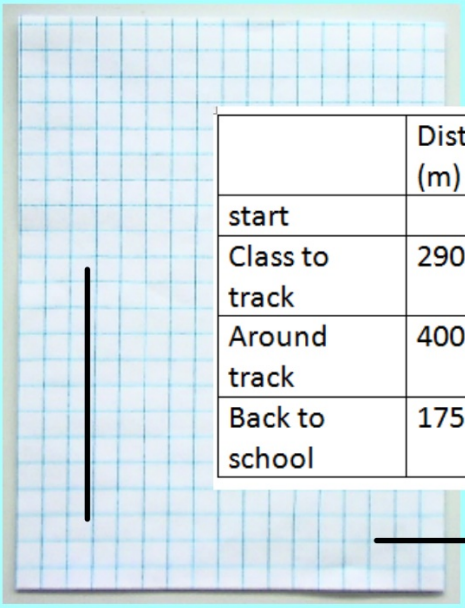
6 pencil

Learning Target: I can use a graph to show the motion of an object.

12/07 **Representing motion** **#5**

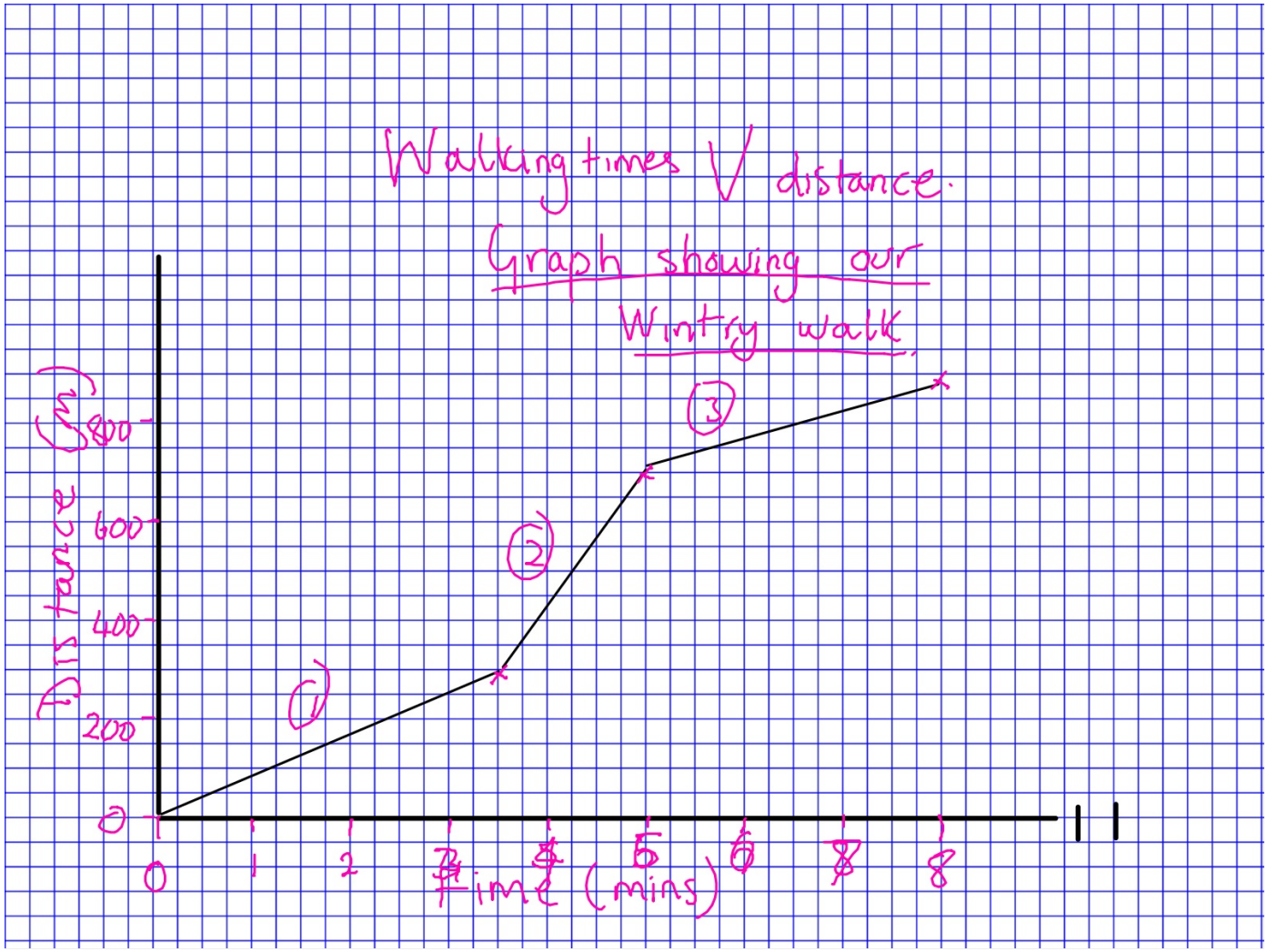
Graph each 'leg' of the trip in a total distance V total time graph (speed graph)

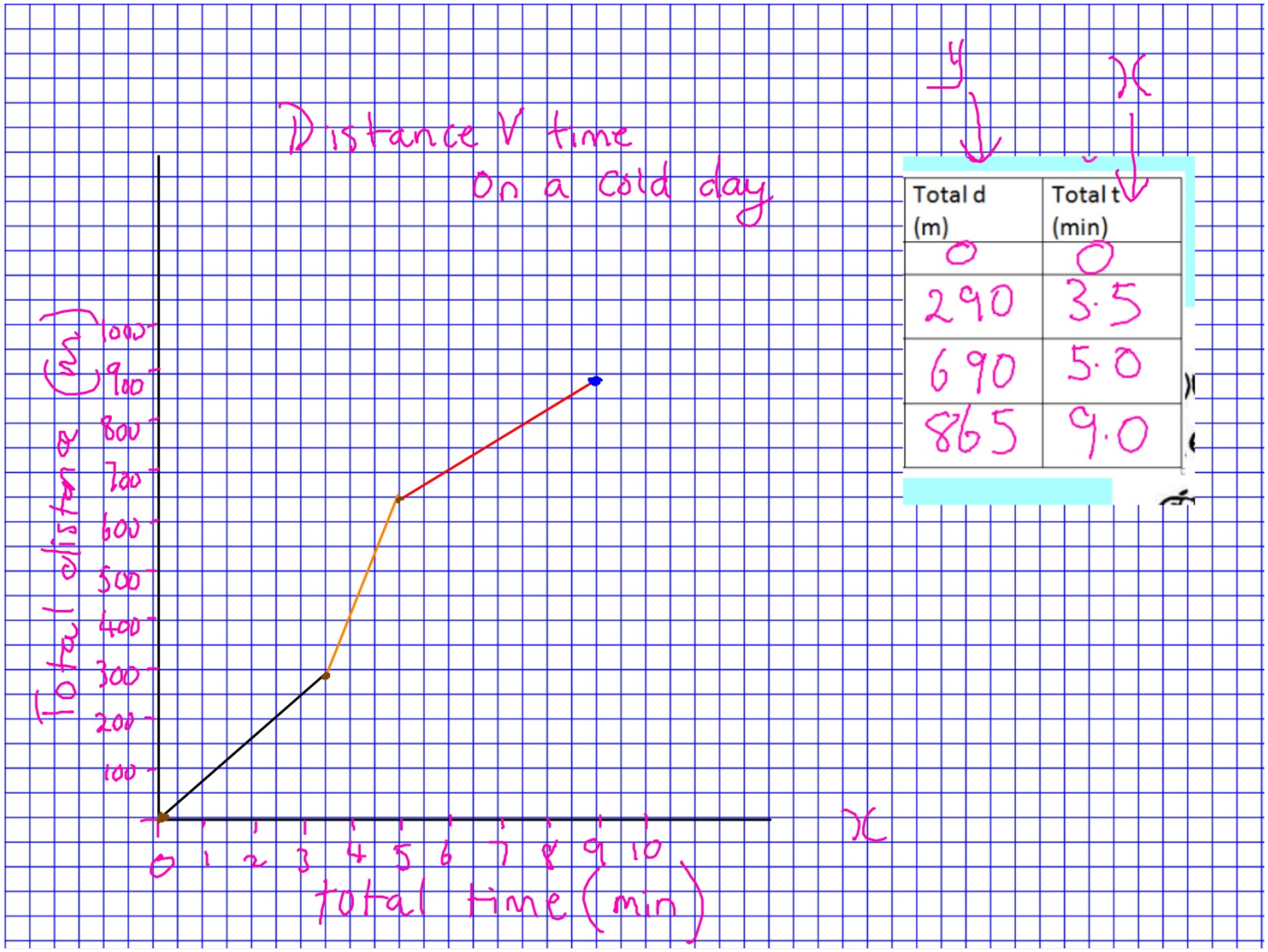
[Cold Day Speed graph]



	Distance (m)	Time (Min)	Total d (m)	Total t (min)
start			0	0
Class to track	290		290	3.5
Around track	400	1.5	690	5.0
Back to school	175	~~3~~ 4.00	865	9.0

Learning Target: I can use a graph to show the motion of an object.

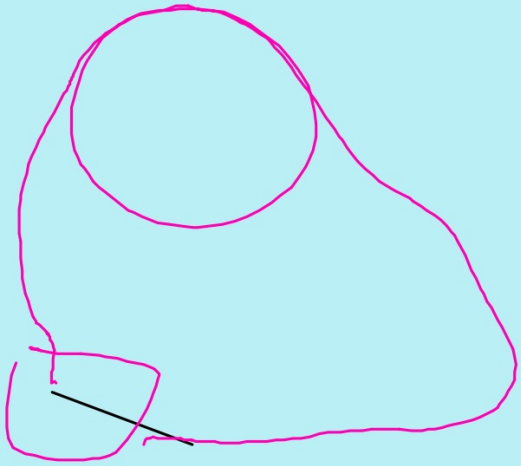

Walking times V distance.
Graph showing our Wintry walk.
Distance (m)
800
600
400
200
0
0
1
2
3
4
5
6
7
8
Time (mins)
①
②
③


Distance V time
On a cold day
y
x
Total d (m)
Total t (min)
0
0
290
3.5
690
5.0
865
9.0
Total distance (m)
100
200
300
400
500
600
700
800
900
1000
0 1 2 3 4 5 6 7 8 9 10
total time (min)
x

12/07 **Representing motion** **#5**

1. Compare graphs - look for anything that needs improvement

2. What part was the fastest, slowest, and middle speed? How does the graph show your speed?



Learning Target: I can use a graph to show the motion of an object.

12/07 **Representing motion** **#5**

RECORD THIS INFORMATION IN YOUR JOURNAL.

*On a distance vs time graph the **slope** shows the **speed**.*

A steeper slope is a faster speed.

Learning Target: I can use a graph to show the motion of an object.

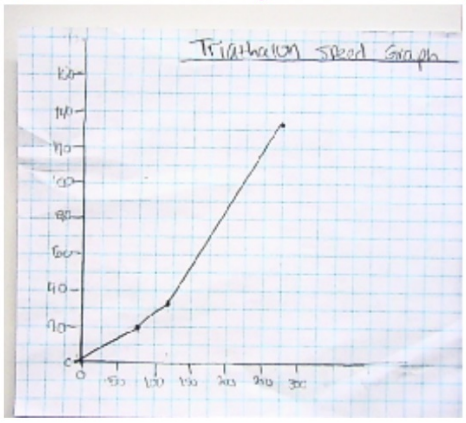
12/07 **Representing motion** **#5**

Distance vs Time Graphs
Slope shows speed
Steeper slopes = faster speeds

y axis

Sweta entered a skate, row, and bike race. Her time and distance for each leg of the race are entered in the chart.

Triathlon Speed Graph



	Time(min)	d (km)	Total t (min)	Total d (km)
start	0	0	0	0
Skate	75	20	75	20
Row	55	6	120	26
Bike	150	100	270	126

Use the total time and total distance data to make a speed graph.

Learning Target: I can use a graph to show the motion of an object.

12/07 **Representing motion** **#5**

Distance vs Time Graphs
Slope shows speed
Steeper slopes = faster speeds

Sweta entered a skate, row, and bike race. Her time and distance for each leg of the race are entered in the chart.

Triathlon Speed Graph

	Δt (min)	d (km)	total time	total distance
Skate	75 min	20 km	75min	20 km
Row	45 min	6 km	120min	26 km
Bike	150 min	100 km	270min	126 km

Use the total time and total distance data to make a speed graph.

Learning Target: I can use a graph to show the motion of an object.