

# Physics 12 Unit 1 Graphing Review Worksheet



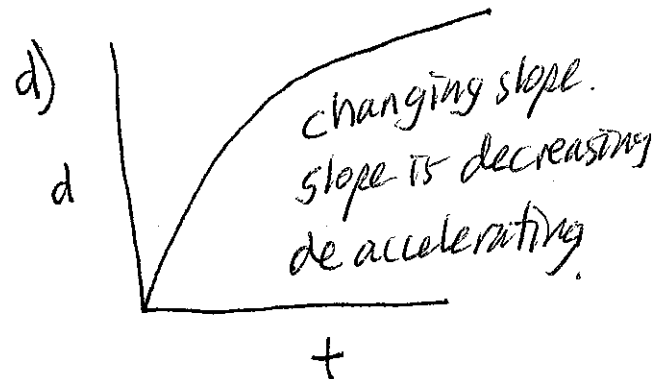
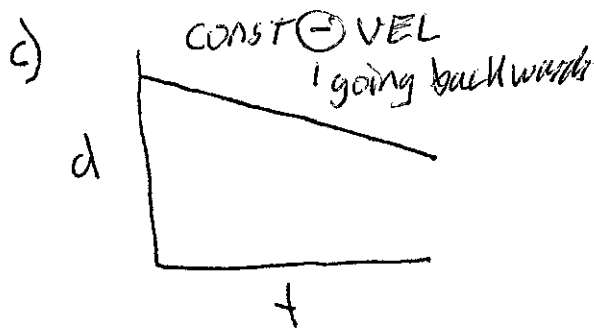
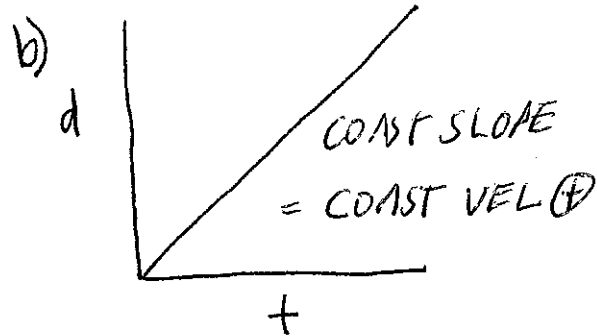
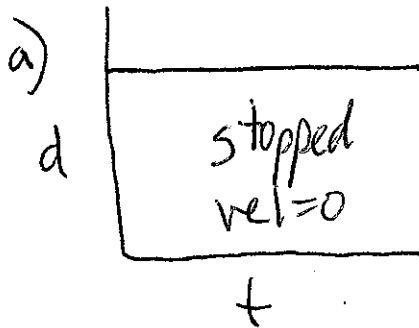
Name: \_\_\_\_\_

Date: \_\_\_\_\_

We often graph data because it allows to visualize patterns. Typically patterns are repeatable and once we recognize the pattern we can make predictions.

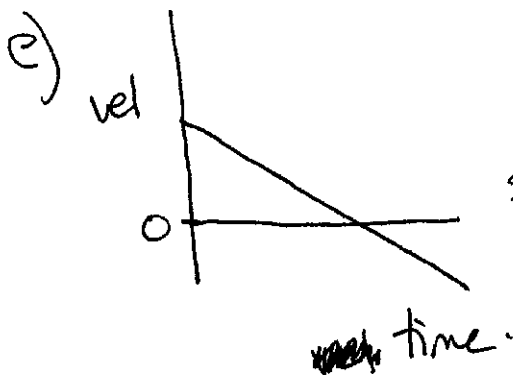
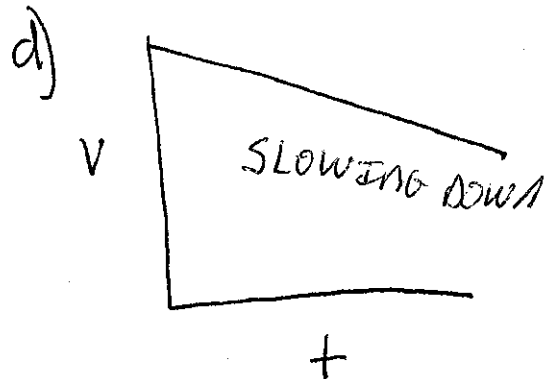
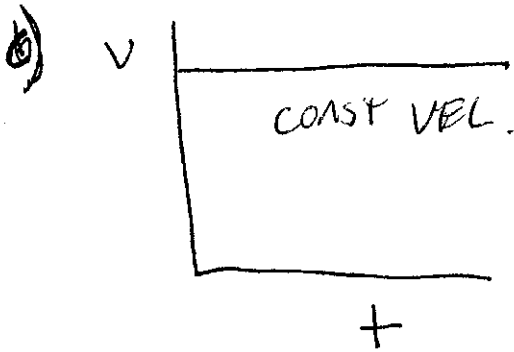
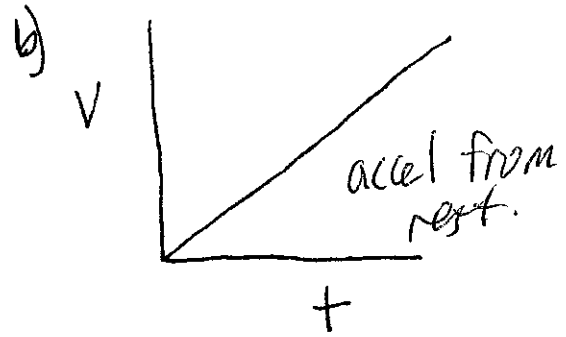
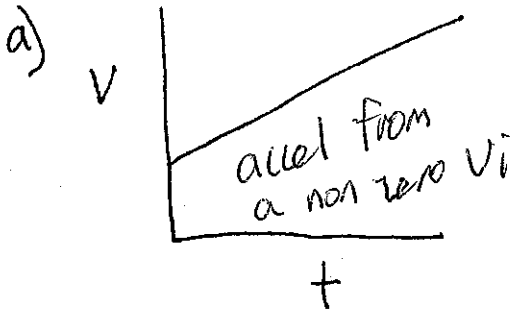
## 1. Distance vs time graphs

- The slope of a graph is rise/run
- For a  $d$  vs.  $t$  graph, slope = distance/time = velocity
- Based on this describe the motion depicted in the graphs below.



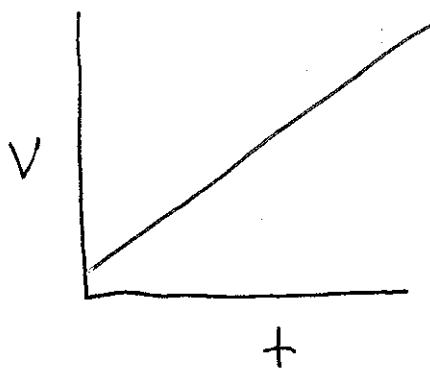
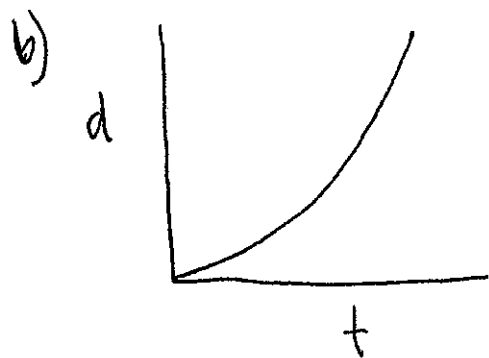
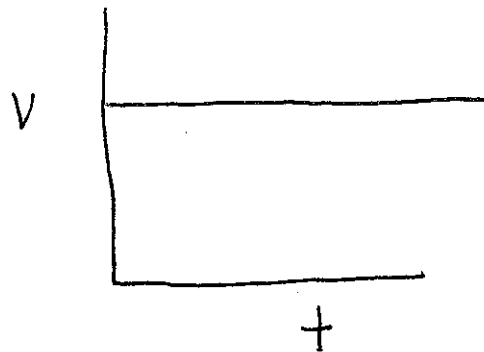
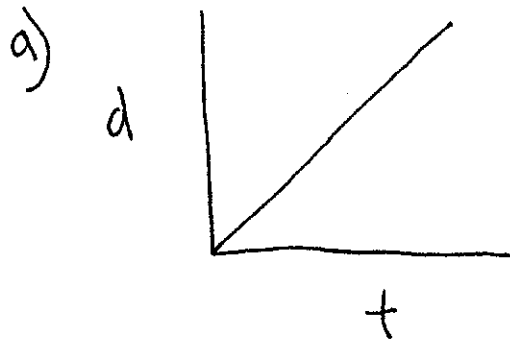
## 2. Velocity vs time graphs

- The slope of a graph is rise/run
- For a  $v$  vs.  $t$  graph, slope = velocity/time = acceleration
- Based on this describe the motion depicted in the graphs below.



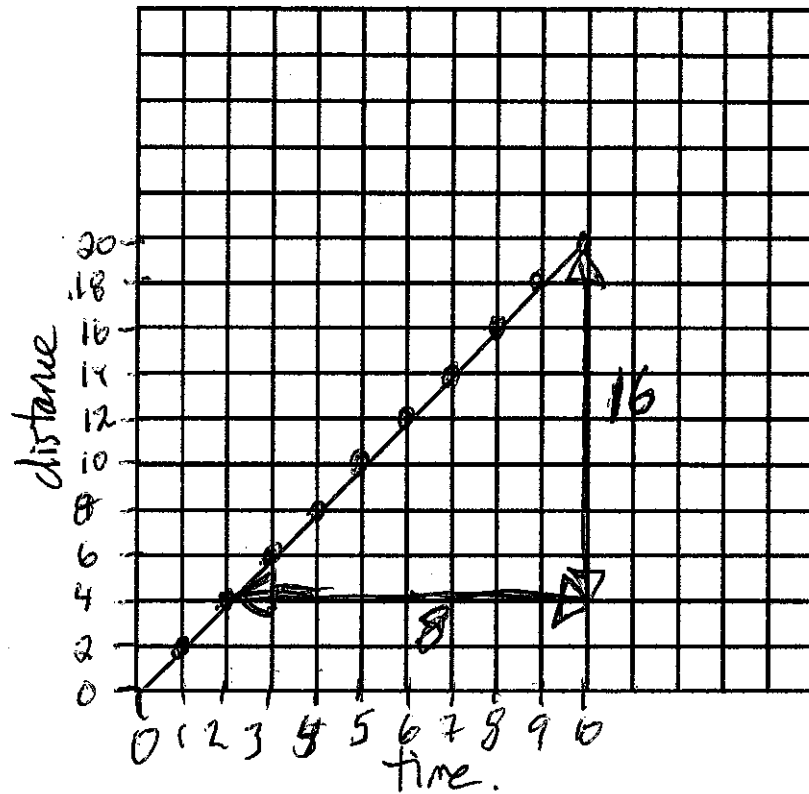
SLOWING DOWN TO ZERO  
and then picking up speed in  $\ominus$  direction.

3. Study the first graph and construct the second graph which represents the same motion.



4. Distance vs Time graph. Graph the following data on the graph provided

Time	Distance
1 sec	2 m
2	4
3	6
4	8
5	10
6	12
7	14
8	16
9	18
10	20



a) include a title, label the axis, draw a line through data

b) calculate the slope, show your working

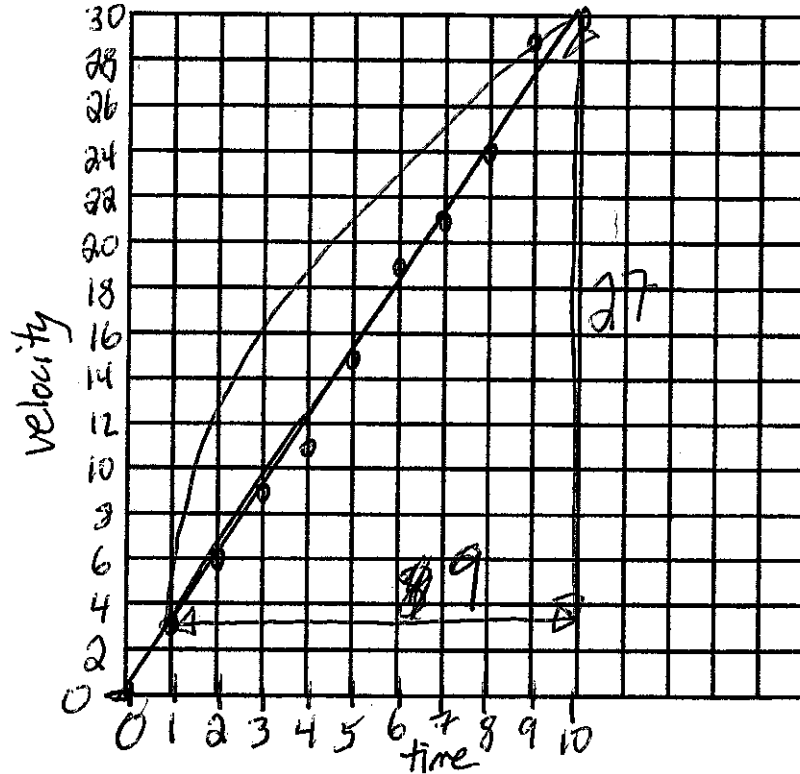
$$\text{slope} = \frac{\text{Rise}}{\text{Run}} = \frac{16}{8} = 2 \text{ m/s.}$$

c) describe the motion of the object

CONST VEL.

5. Graph the following data on the graph provided

Time	velocity
1 sec	3 m/s
2	6
3	9
4	11
5	15
6	19
7	21
8	24
9	29
10	30



a) include a title, label the axis, draw a best fit line through data

b) calculate the slope, show your working  $\text{slope} = \frac{27}{9} = 3 \text{ m/s}^2$

c) write the specific equation of the line

$$v = (3 \text{ m/s}^2) t$$

d) describe the motion of the object

accelerating

e) Write the specific equation of the line

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6. Data can be misrepresented a number of ways. Often this is done to try and convince you of something. The data below represent the wages paid to workers over the last ten years.

Plot the data on the two graphs attached. Create a bar graph.

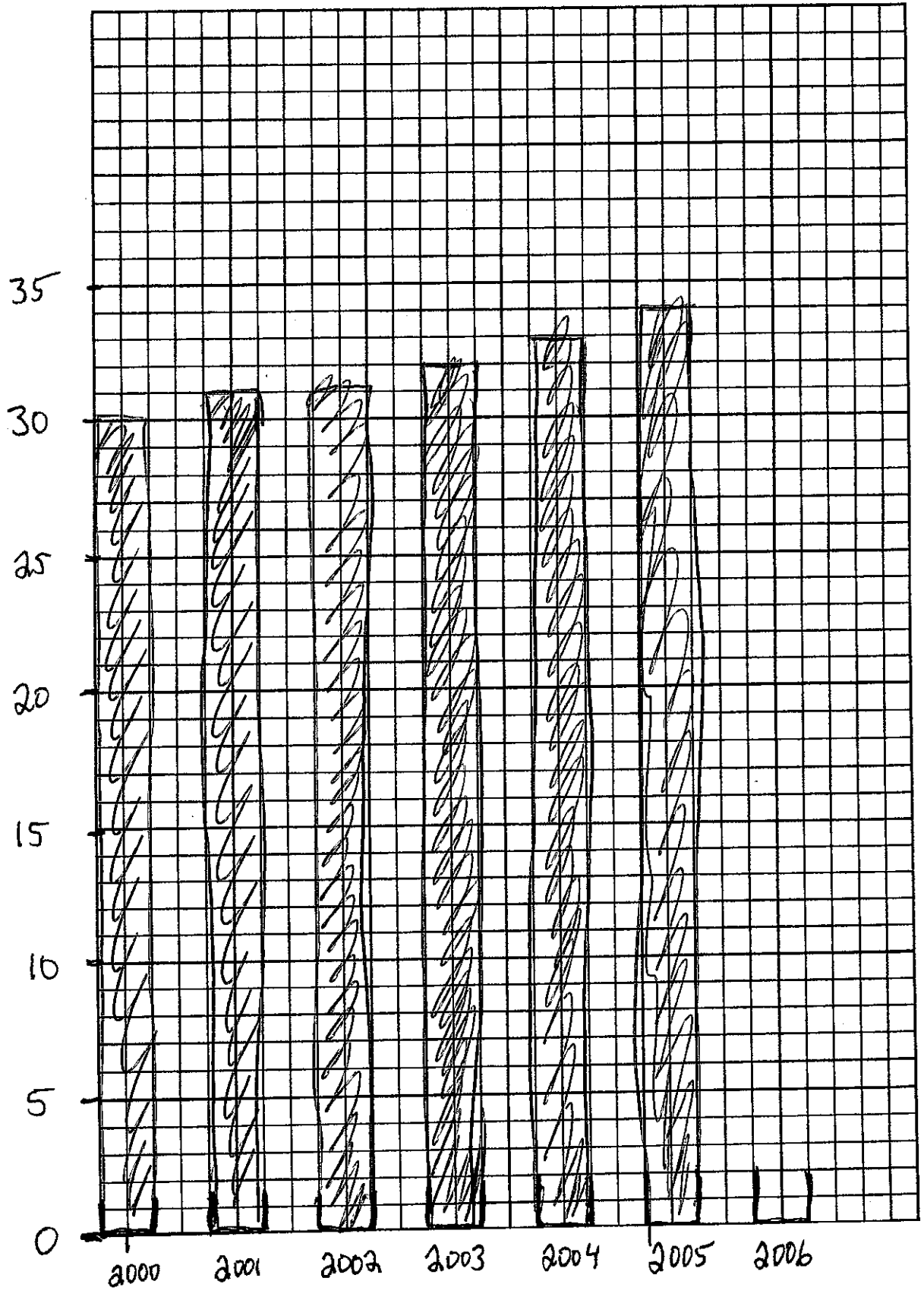
Year	Wages
2000	30
2001	31
2002	31
2003	32
2004	33
2005	34

Which graph would the employer want to show to the workers to support her opinion that the workers have received large wage increases over the last 6 years?

*Graph 2.*

Which graph would the employees want to show to the employer to support their opinion that they have received very minimal wage increases over the last 6 years?

*Graph 1*



#6/ Graph #2

P12 U1 Graph Rev

