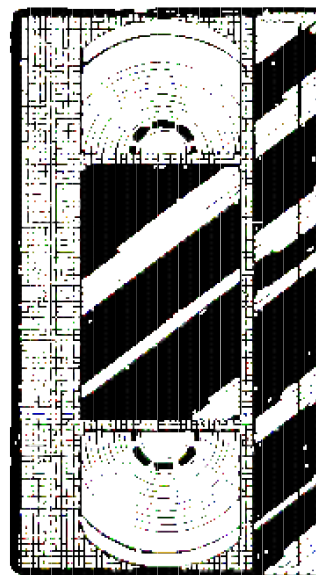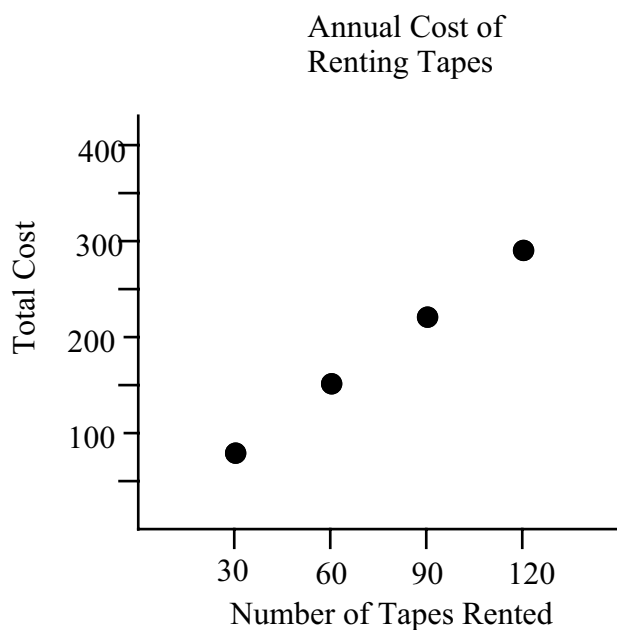# *Making Sense of Slope*

1. Viper Video charges a membership fee per year in addition to the rental cost per tape. The graph represents the annual cost as it varies with the number of tapes rented.

Annual Cost of
Renting Tapes

| Tapes	0	30	60	90	120
Cost	7	82	157	232	307

a)   Calculate the slope. Explain what the slope represents in terms of number of tapes rented and cost.

b)   What does the **y**-intercept represent in this application?

2. A skydiver, during a jump, falls at a constant rate after the first ten seconds. The graph below shows the altitude of the skydiver after **x** seconds.

Altitude over Time

Seconds	0	10	20	30	40	50
Meters	4000	3000	2500	2000	1500	1000
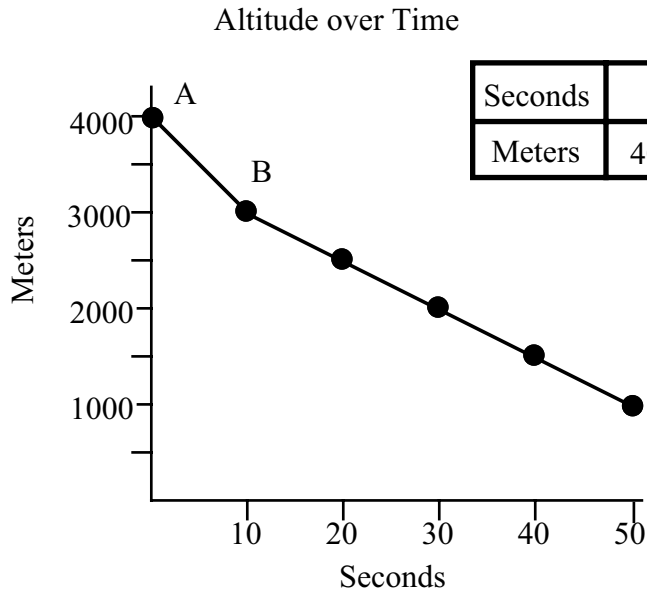
a) Calculate the slope of the line after the first 10 seconds after point B). Explain the meaning of the slope in terms of meters and seconds.

b) What is the meaning of the **y**-intercept in this application?

c) What is the meaning of the **x**-intercept?

d) Why might there be a steeper slope from point A to point B?

3. The data below represent the value of a delivery truck as it depreciates over a period of 5 years.

Years	0	1	2	3	4	5
Truck Value	15000	12400	9800	7200	4600	2000
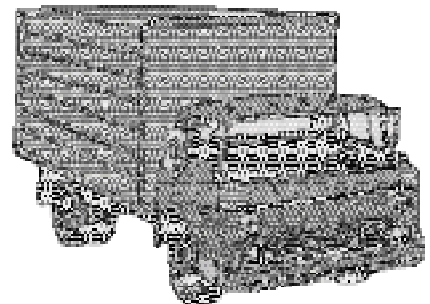
a) Graph the data.

b) Calculate the slope. What is the meaning of the slope in terms of years and current value?

c) What is the meaning of the **y**-intercept?

d) Write an equation to describe the data.

4.   The data below represent the distance traveled by a boat every 10 minutes.

Minutes	10	20	30	40	50
Distance	4	8	12	16	20

a)   Graph the data.

b)   Calculate the slope. Describe the slope in terms of distance and minutes. Now, describe the slope in terms of miles and hours.

c)   Write the equation describing the data in minutes. Write an equation in hours.

d)   What would be the distance traveled after 1.5 hours?

5.   Write an application for the equation: $y = 3.5x + 4$

a)   Complete a table and graph.

b)   Interpret the meaning of the slope.

c)   Interpret the **y**-intercept.