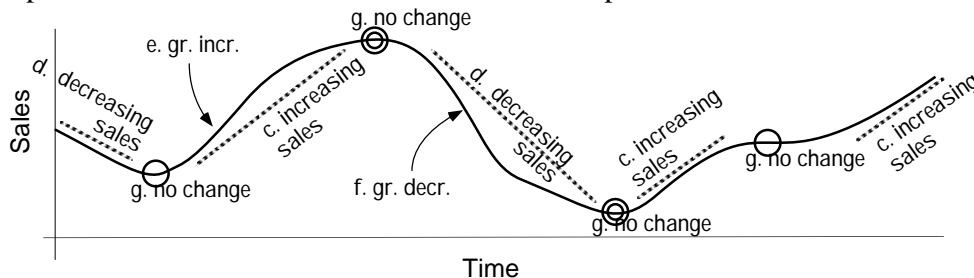


PhyzJob: What is the Graph Trying to Tell Me?



Now that your mind is back online, you're ready to jump into graphs. Graphs are good; graphs are our friends. Graphs will help us understand many of the relationships between quantities throughout the course. In the near future, graphs will be indispensable for understanding motion. But first, let's brush up on some graph basics.

1. Below is a plot of the sales of the Revaline Cosmetics Corporation.

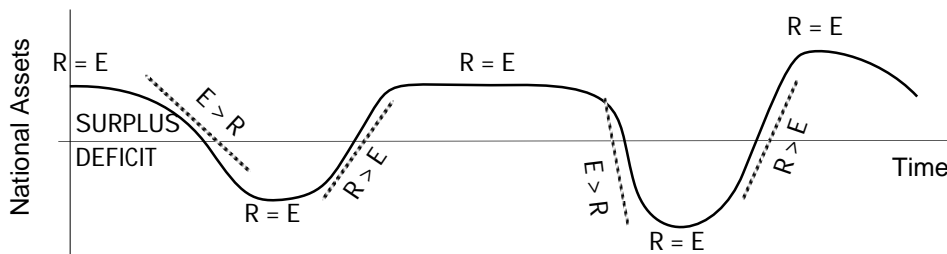


Label the following points and/or segments on the graph.

- Maximum sales (Circle the point on the graph and label it "Max Sales")
- Minimum sales
- Increasing sales (Label segments—mark the endpoints—along the plot)
- Decreasing sales
- At what point are sales increasing at the greatest rate? Label that point.
- At what point are sales decreasing at the greatest rate? Label that point.
- What part(s) of the graph show no increase or decrease in sales? Circle those areas and describe what sets them apart from other areas.

h. You overhear a student in another group say, "Whenever the slope of the graph is positive, sales are increasing. The highest positive slope occurs when the increase is greatest." What do you think of this statement? (Is it right? Is it wrong? Comment.)

2. Below is a graph of the National Assets of the tiny island country of Simplicia. National Assets (on any given day) = Previous Day's National Assets + Daily Revenues - Daily Expenditures.



Indicate answers to the following questions by labeling the appropriate portion of the graph.

- When does Simplicia have a SURPLUS?
 - When does Simplicia have a DEFICIT?
 - When do revenues exceed expenditures?
 - When do expenditures exceed revenues?
- e. Which is greater: Simplicia's largest surplus or Simplicia's largest deficit? Deficit

f. Look at the end of the graph (the last moment in time for which data was recorded on the graph).

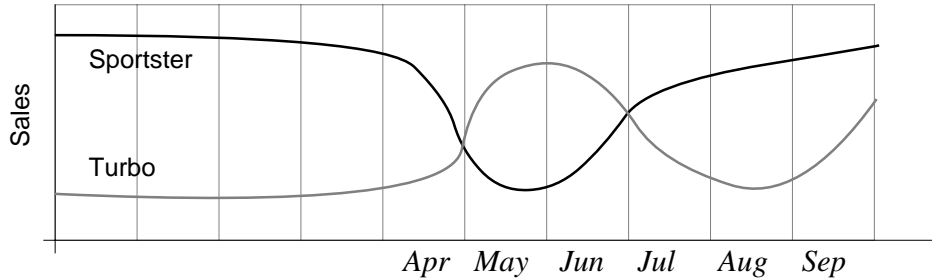
i. Was there a surplus or deficit? **Surplus.**

ii. Which was greater: revenues or expenditures? **Expenditures.**

g. You overhear a student in another group say, “There’s a deficit whenever expenditures exceed revenues.” What do you think of this statement? (Is it right? Is it wrong? Comment.)

Wrong. Deficit means under the time axis: expenditures exceed revenues means negative slope.

3. The graph below shows the sales of two competing cars: *Sportster* and *Turbo*.



a. Suppose you are the advertising director for *Sportster*. **Based on September sales data**, what advertising claim can you make to convey the superiority of your car over the competition?

Best-selling!

b. Suppose you are the advertising director for *Turbo*. **Based on September sales data**, what advertising claim can you make to convey the superiority of your car over the competition?

Fastest-growing sales!

c. Complete the table below. What—if anything—would the advertising claims have been in the previous months?

	Sportster Ad Claim	Turbo Ad Claim
August	Best-selling! Most cars sold!	
July	Best-selling! Most cars sold!	
June	Fastest-growing! Most cars sold!	Best-selling!
May	Most cars sold!	Fastest-growing! Best-selling!
April	Best-selling! Most cars sold!	Fastest-growing!