

# ECONOMICS

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## *Principles and Applications*

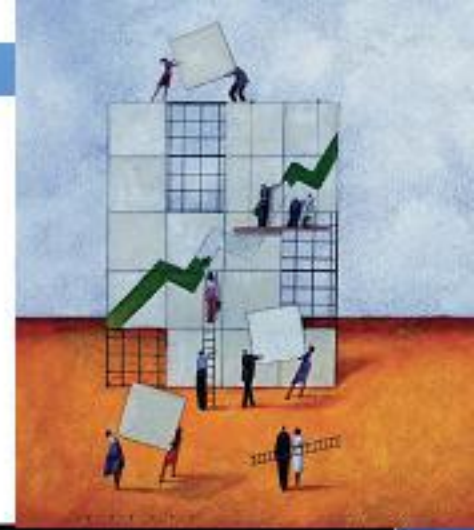
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# Chapter 1



What is Economics ?

# Overview

- What is economics?
  - ✓ Definition, scarcity, and choice
  - ✓ The world of economics
    - Micro vs. Macro
    - Positive vs. Normative
  - ✓ Why and how to study economics
  - ✓ The methods of economics
- Math review

# Economics, Scarcity, and Choice

- Economics
  - Study of choice under conditions of scarcity
- Scarcity
  - Situation in which the amount of something available is insufficient to satisfy the desire for it

# Scarcity and Individual Choice

- Unlimited variety of scarcities, based on two basic limitations:
  1. Scarce time
    - Limited number of hours in each day to satisfy our desires
  2. Scarce spending power
    - Cannot afford to buy more of the things we want

# Scarcity and Individual Choice

- Limitations force each of us to make choices
- Economists study
  - Choices
  - Consequences of those choices
  - Indirect effects of individual choice on our society

# Scarcity and Social Choice

- Society faces a scarcity of resources
- Categories of resources:
  - Labor
  - Capital
    - Human capital
    - Capital stock
  - Land/natural resources
  - Entrepreneurship

# Scarcity and Economics

- Problems studied in economics: the scarcity of resources—and the choices it forces us to make
  - Households – have limited income to allocate among goods and services
  - Firms – production is limited by costs of production
  - Government agencies – the budget is limited, so goals must be carefully chosen



# Scarcity and Economics

- Economists study the decisions made by households, firms, and governments to
  - Explain how our economic system operates
  - Forecast the future of our economy,
  - Suggest ways to make that future even better

# Microeconomics

- Micro comes from the Greek word *mikros*, meaning “small”
- Studies the behavior of *individual* households, firms, and governments
  - Choices they make
  - Interaction in specific markets
- Focuses on individual parts of an economy

# Macroeconomics

- Macro comes from the Greek word *makros*, meaning “large”
- Studies the behavior of the overall economy
- Focuses on big picture and ignores fine details

# Positive and Normative Economics

- Positive economics: *how* the economy works
  - Can be true or false
  - Can be tested by looking at the facts
- Normative economics: *what should be*
  - Value judgments, identify problems, and prescribe solutions
  - Cannot be proved or disproved by the facts alone

# Why Economists Disagree

- The difference of opinion may be positive in nature
  - Facts are being disputed
- The disagreement can be normative
  - Facts are not being disputed
- When economists have different values, they may arrive to different conclusions
- Disagreement - over goals and values

# Why Study Economics

- To understand the world better
  - Global events and personal phenomena
- To achieve social change
  - Understand the origins of social problems
  - Design more effective solutions

# Why Study Economics

- To help prepare for other careers
  - A wide range of careers deal with economic issues on many levels
- To become an economist
  - Develop a body of knowledge that could lead you to become an economist in the future

# The Methods of Economics

- Use economic models to develop economic theories
- Economic models are built with words, diagrams, and mathematical statements
- Economic models
  - Abstract representation of reality
  - Should be as simple as possible to accomplish its purpose



# Economic Models: Assumptions and Conclusions

- Two types of assumptions:
  - Simplifying assumptions
    - Essential features can stand out more clearly
  - Critical assumptions
    - Affect the conclusions of a model in important ways
    - If critical assumptions are wrong, the model will be wrong

# The Three Step Process

- Economists follow the same *three-step process* to analyze almost any economic problem:
  - The first two steps explain how economists *build* an economic model
  - The last step explains how they *use* the model.

# Math, Jargon, and Other Concerns...

- Economic jargon
  - Special words that allow economists to more precisely express themselves
- Math
  - High school level algebra and geometry
- We will covers some of the basic math concepts that you will need tomorrow

# How to Study Economics

- Economics must be studied actively, not passively
- Active study
  - Reproduce what you have learned
  - List the steps in each logical argument
  - Retrace the cause-and-effect steps
  - Draw the graphs
  - Basic principles
    - relate to what you are learning

# Math Review

- Tables and graphs
  - Tables
  - Straight-line graphs
  - Curved lines
- Linear equations
- Lines and curves shift
- Shifts vs. movements along a line

# Tables and Graphs

- **TABLE A.1** Advertising and Sales at Len & Harry's

**Advertising Expenditures**  
**(\$1,000 per Month)**

**Sales**  
**(\$1,000 per Month)**

2

24

3

27

6

36

7

39

11

51

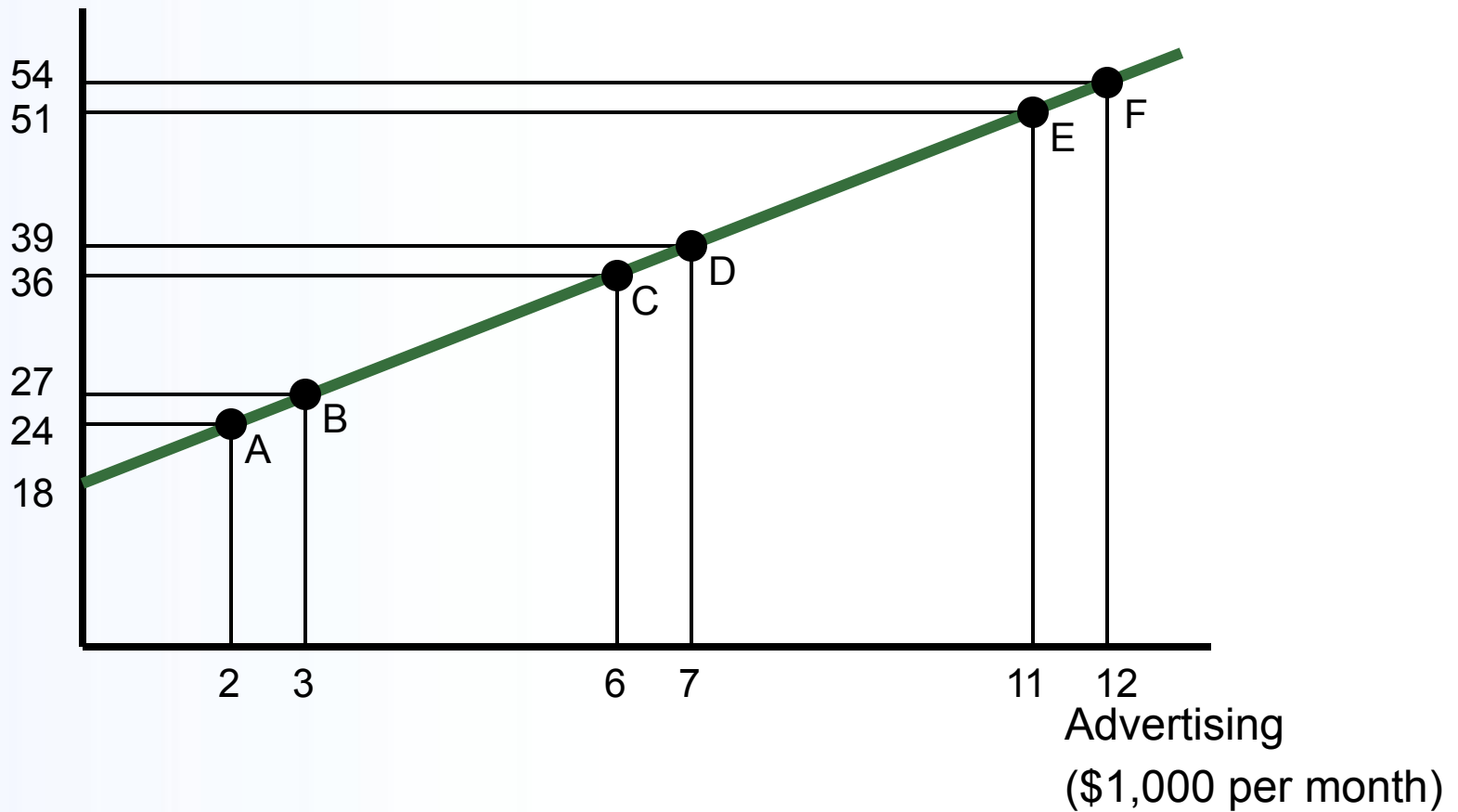
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# Straight-line Graphs

- **FIGURE A.1** A Graph of Advertising and Sales

Sales (\$1,000 per month)



# Straight-line Graphs

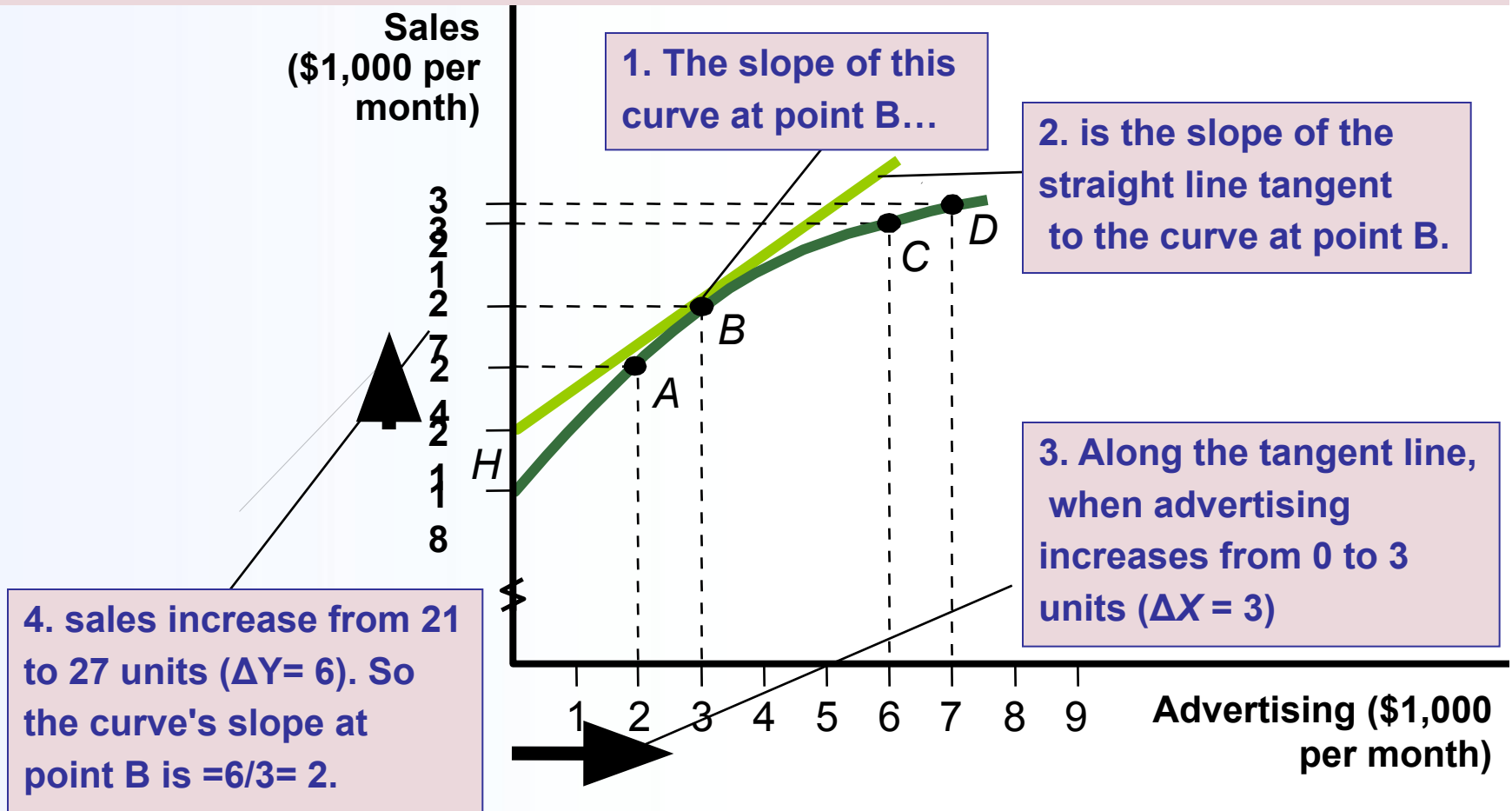
- Slope of a straight line =  
Change in vertical variable / Change in  
horizontal variable

$$= \frac{\Delta Y}{\Delta X}$$



# Curved Lines

- **FIGURE A.2** Measuring the Slope of a Curve



# Linear Equations

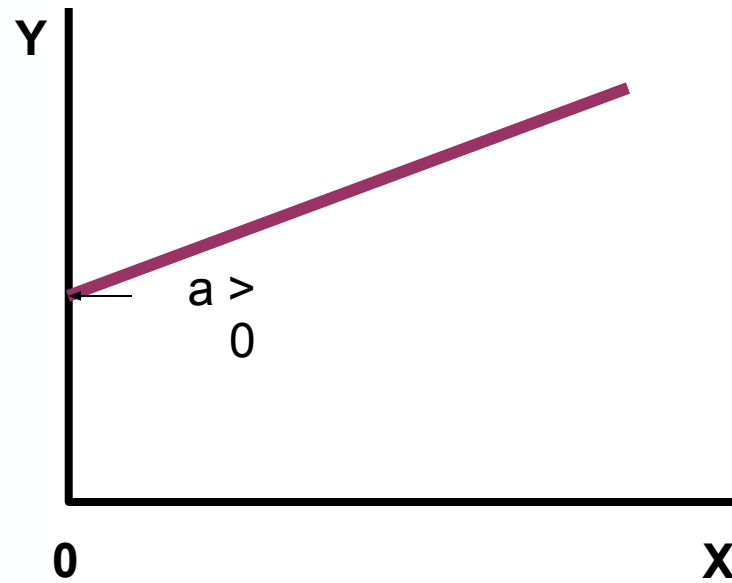
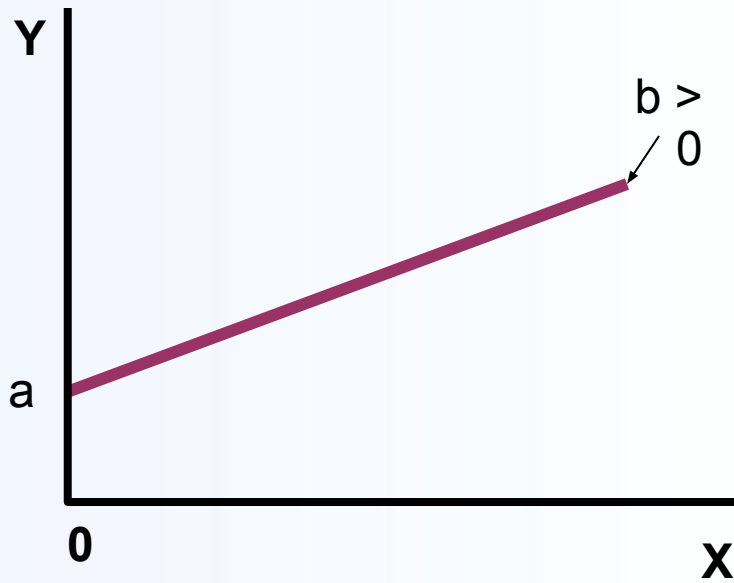
- $Y = a + bX$
- $a$ : vertical intercept
- $b$ : slope
- Exercise: what is the linear equation for advertisement example in Figure A.1?
- $Y = 18 + 3X$

# Linear Equations

- Remember :  $Y = 18 + 3X$
- For example, how much expenses are necessary to secure a sale \$39,000?
- $Y = \$39$  now
- $\$39 = 18 + 3X$
- $X = (39 - 18)/3 = 7$

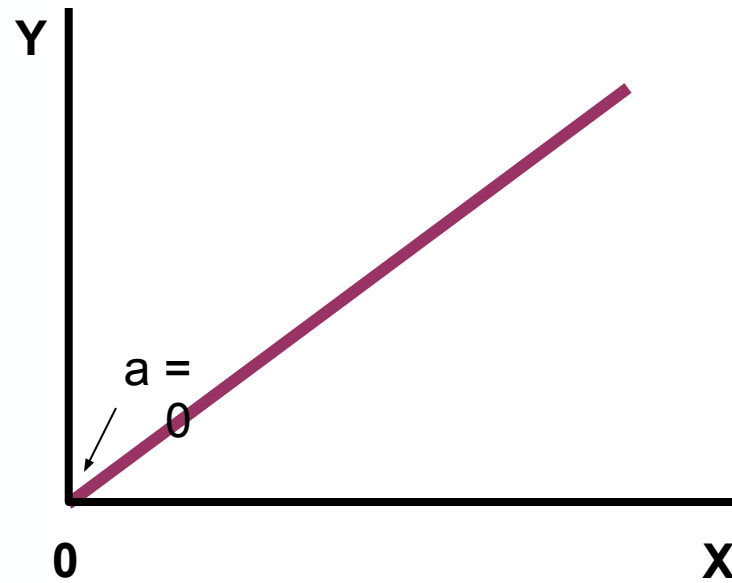
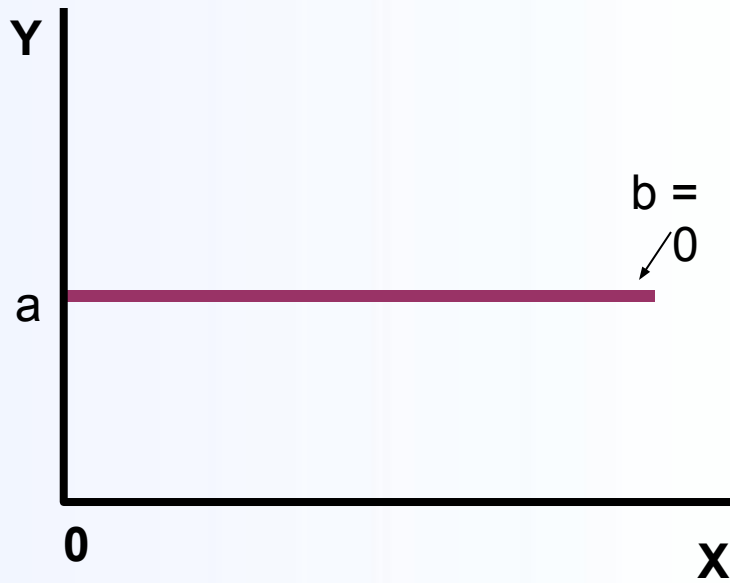
# Linear Equations

**FIGURE A.3** Straight Lines with Different Slopes and Vertical Intercepts



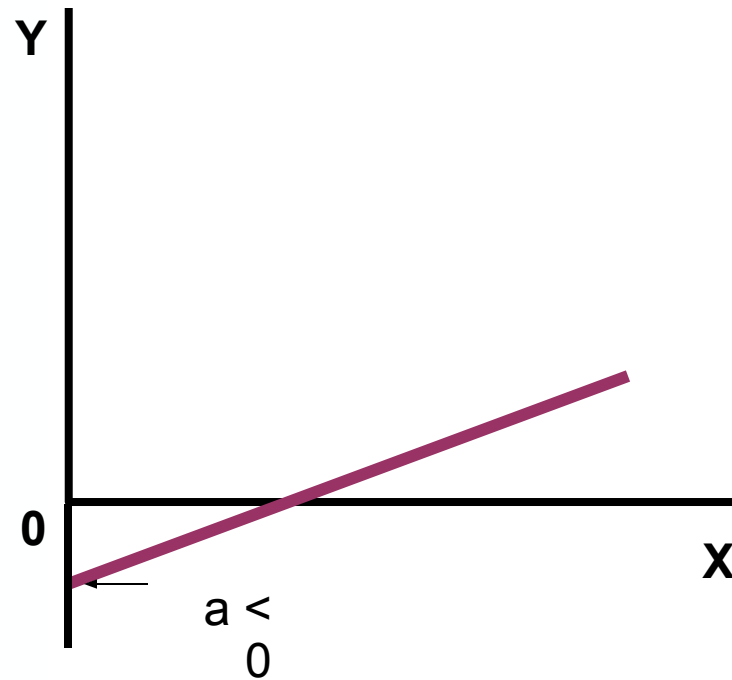
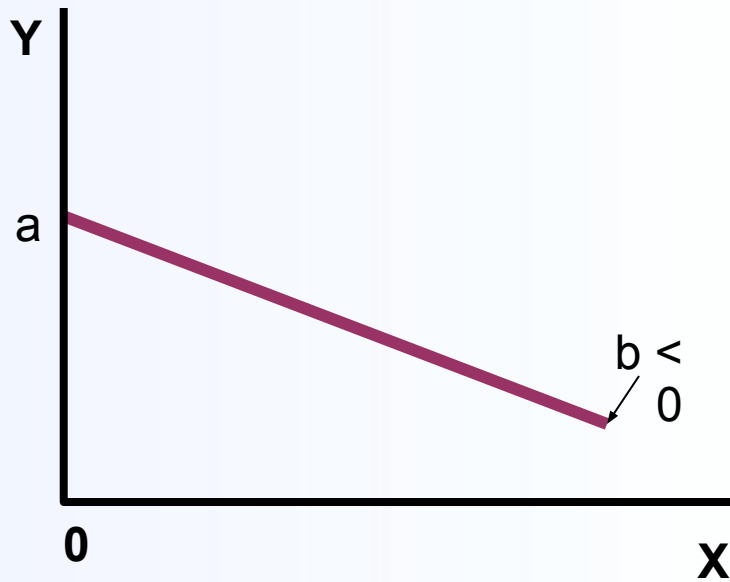
# Linear Equations

**FIGURE A.3** Straight Lines with Different Slopes and Vertical Intercepts



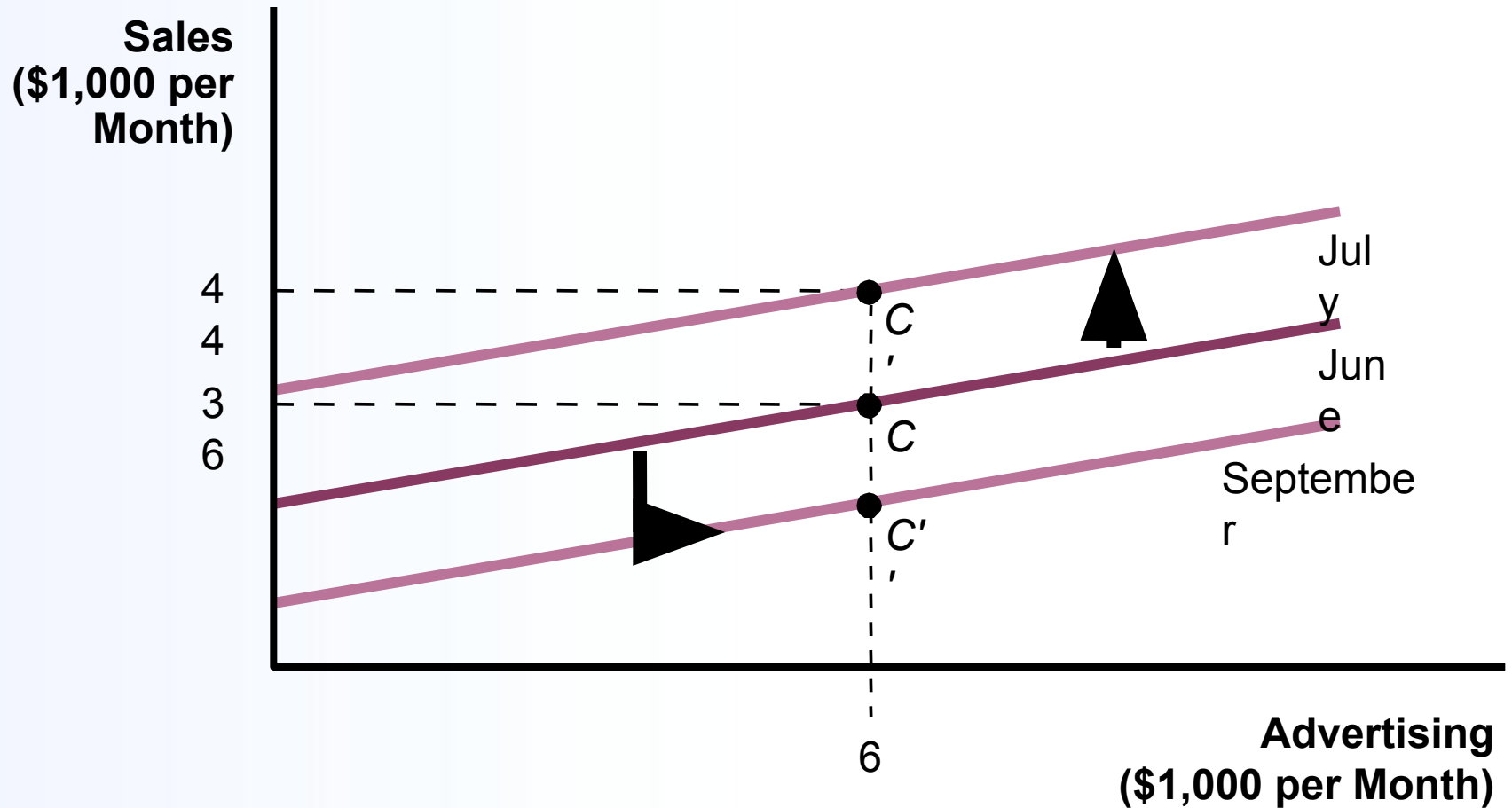
# Linear Equations

**FIGURE A.3** Straight Lines with Different Slopes and Vertical Intercepts



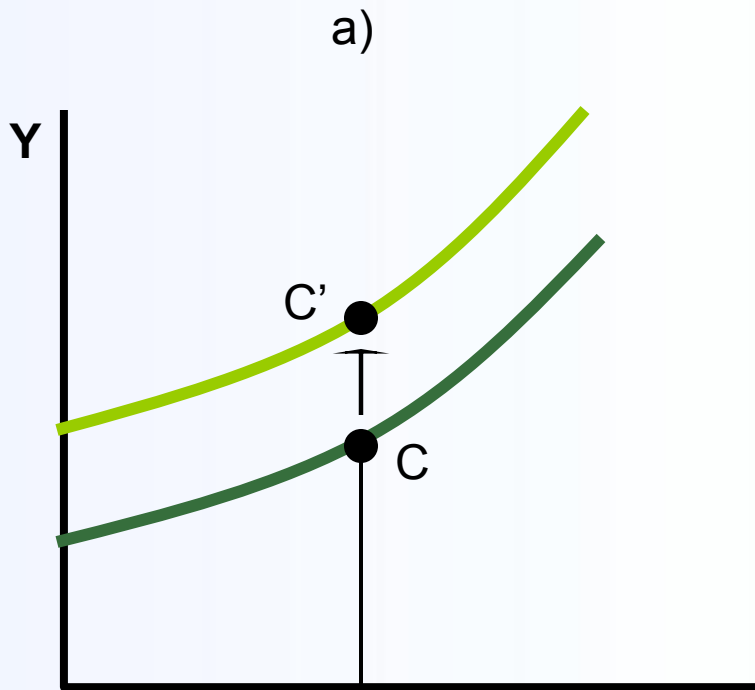
# Line Shift

- **FIGURE A.4** Shifts in the Graph of Advertising and Sales

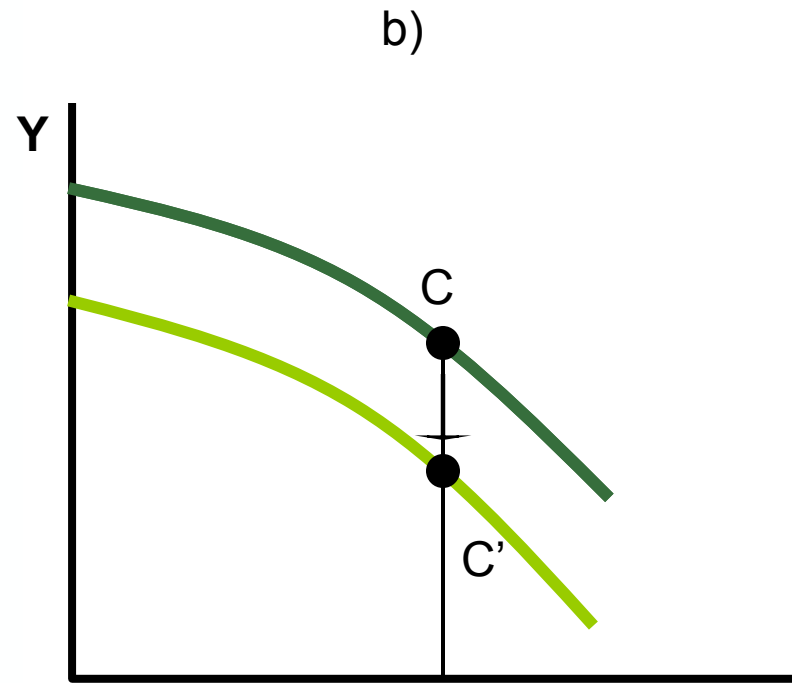


# Curves Shift

- **FIGURE A.5** Shifts of Curved Lines



An increase in Z causes an increase in Y at any value of X



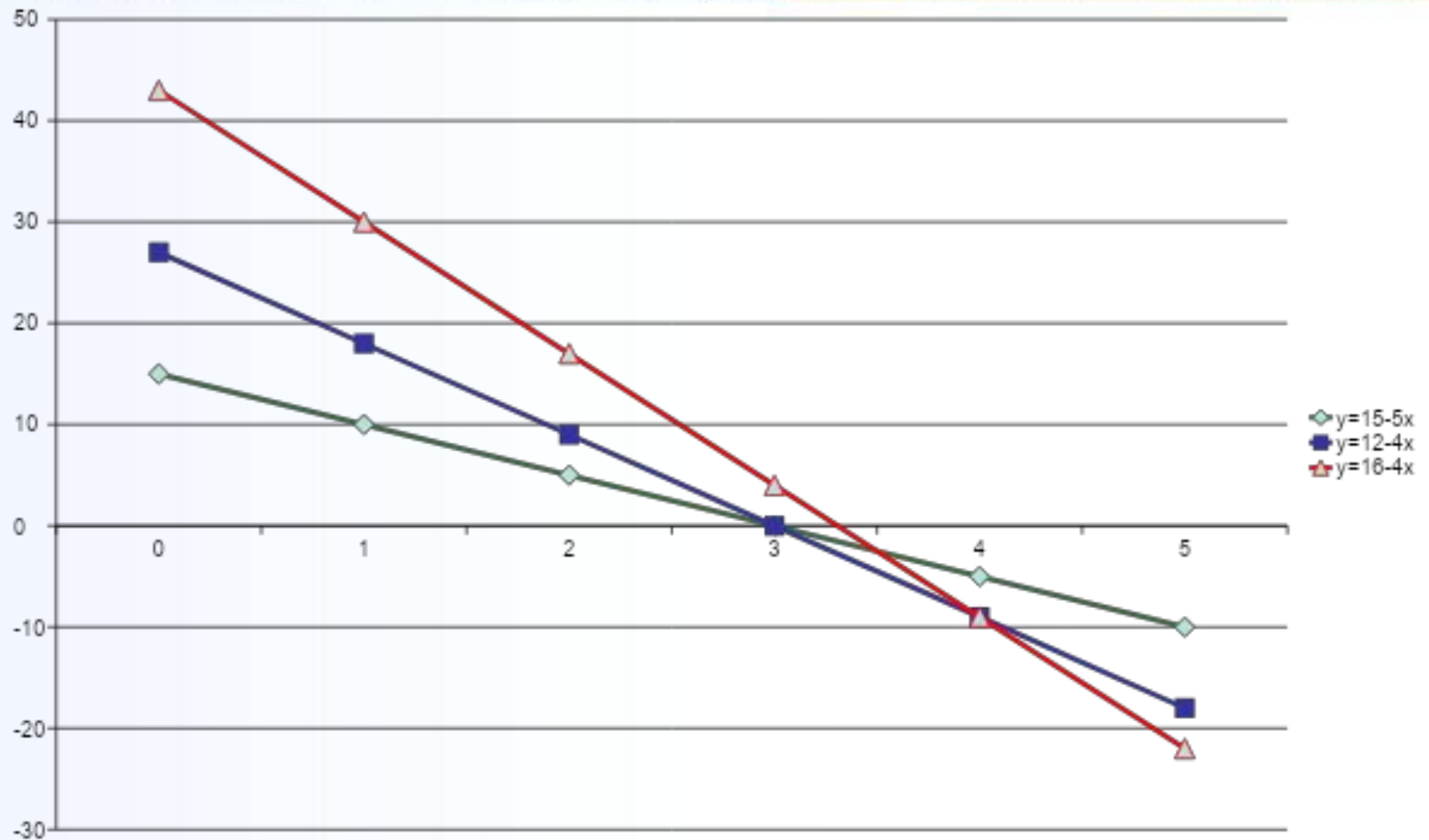
An increase in Z causes a decrease in Y at any value of X



# Shifts vs. Movements Along a Line

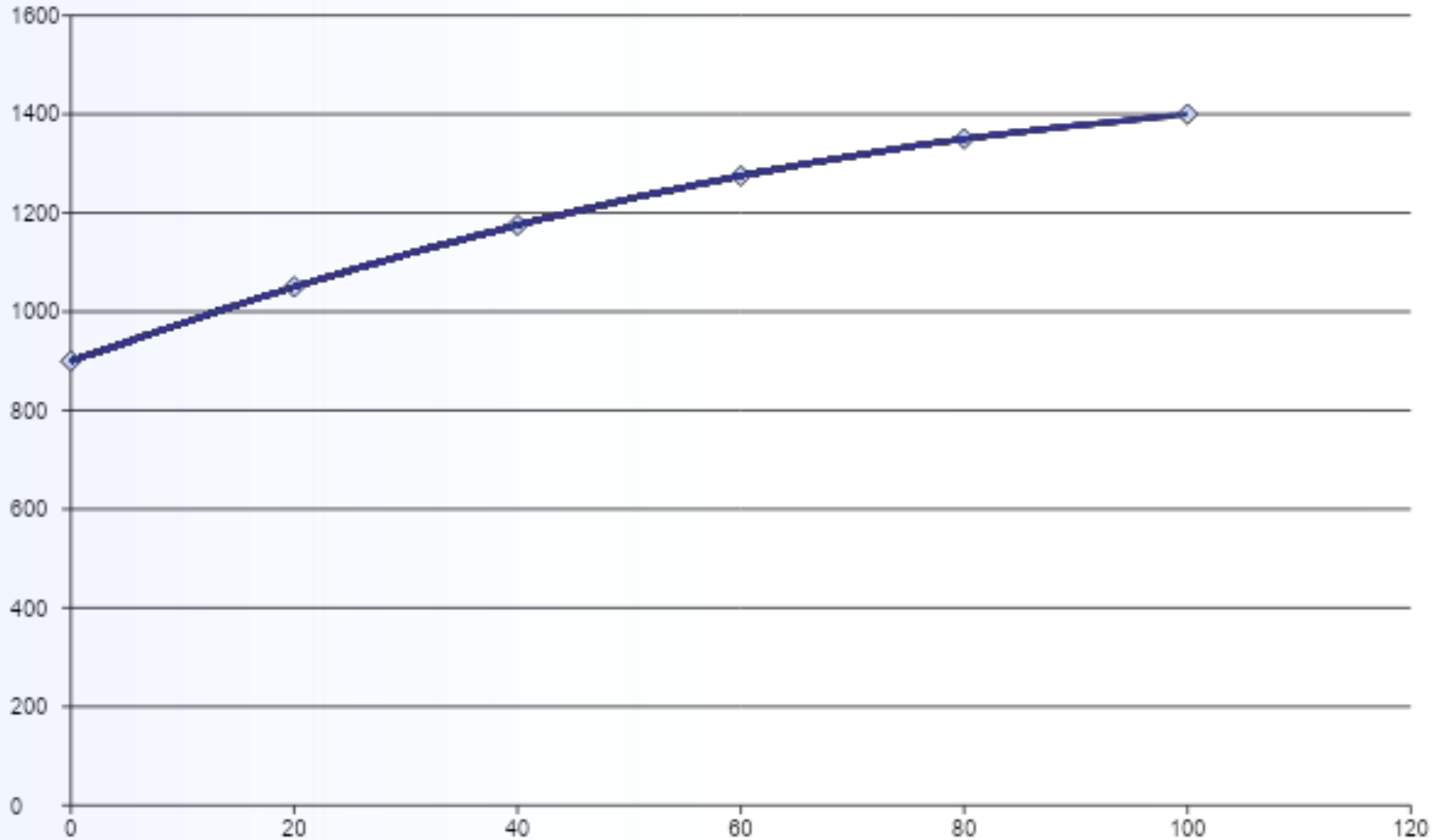
- Suppose  $Y$  is the dependent variable, which is measured on one of the axis. If the independent variable *measured on the other axis changes*, we move along the line.
- But if *any other* independent variable changes, the *entire line shifts*.

# Practice Question 1



# Practice Question 2

SAT on Hours



# Practice Question 3

