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STATISTIKA DESKRIPTIF [1st SEM.25/'26]

MATERI STATISTIKA-1

1. **Pengertian dan Kegunaan Statistika**
2. **Distribusi Frekuensi**
3. **Ukuran Nilai Pusat/Sentral**
4. **Ukuran Dispersi/Penyimpangan**
5. **Ukuran Kemencengan/Kemiringan**
6. **Ukuran Keruncingan**
7. **R E V I E W -1 [Topik 1 sd. 6]**
8. **Ukuran Perbandingan (Indeks-1) Harga**
9. **Ukuran Perbandingan (Indeks-2) Harga**
10. **Ukuran Perbandingan (Indeks-3) Jumlah**
11. **Analisis Deret Berkala (ADB-1); Musim dan Trend**
12. **Analisis Deret Berkala (ADB-2); Siklis dan Residu**
13. **R E V I E W -2 [Topik 8 sd. 12]**

Introduction to Statistics

LEARNING OBJECTIVES

The primary objective of Chapter 1 is to introduce you to the world of statistics, thereby enabling you to:

1. List quantitative and graphical examples of statistics within a business context

2. Define important statistical terms, including population, sample, and parameter, as they relate to descriptive and inferential statistics

3. Compare the four different levels of data: nominal, ordinal, interval, and ratio

ARTI PENTINGNYA STATISTIKA

PENGERTIAN:
- ➢ Statistics: Designing Study, gathering data, Clasifying, Summarizing, Interpreting, Presenting, and Conclusion.
- ➢ Statistics: Different things to different People
- ➢ History: Italian Word Statista = States man ababd 17th, oleh Gottfried Achenwall
- ➢ Population: Complete collection of measurement object
- ➢ Cencus: Survey all the element in a population
- ➢ Sample: Subset from Population
- ➢ Parameter: Is a number that describes a population Character
- ➢ Statistic: is a number that describes a sample Characteristic
- ➢ Descriptive Statistics
- ➢ Statistical Inference. (Inferential Statistics) ⎫ **Subdivision Wthin Statistics**

STATISTICS IN BUSINESS

Virtually every area of business uses statistics in decision making. Here are some recent examples:

- According to a TNS Retail Forward ShopperScape survey, the average amount spent by a shopper on electronics in a three-month period is $629 at Circuit City, $504 at Best Buy, $246 at Wal-Mart, $172 at Target, and $120 at RadioShack.
- A survey of 1465 workers by Hotjobs reports that 55% of workers believe that the quality of their work is perceived the same when they work remotely as when they are physically in the office.
- A survey of 477 executives by the Association of Executive Search Consultants determined that 48% of men and 67% of women say they are more likely to negotiate for less travel compared with five years ago.
- A survey of 1007 adults by RBC Capital Markets showed that 37% of adults would be willing to drive 5 to 10 miles to save 20 cents on a gallon of gas.
- A Deloitte Retail "Green" survey of 1080 adults revealed that 54% agreed that plastic, non-compostable shopping bags should be banned.
- A recent Household Economic Survey by Statistic New Zealand determined that the average weekly household net expenditure in New Zealand was $956 and that households in the Wellington region averaged $120 weekly on recreation and culture. In addition, 75% of all households were satisfied or very satisfied with their material standard of living.

Cellular Phone Use in Japan

The Communications and Information Network Association of Japan (CIAJ) conducts an annual study of cellular phone use in Japan. A recent survey was taken as part of this study using a sample of 600 cell phone users split evenly between men and women and almost equally distributed over six age brackets. The survey was administered in the greater Tokyo and Osaka metropolitan areas. The study produced several interesting findings. It was determined that 62.2% had replaced their handsets in the previous 10 months. A little more than 6% owned a second cell phone. Of these, the objective of about two-thirds was to own one for business use and a second one for personal use. Of all those surveyed, 18.2% used their handsets to view videos, and another 17.3% were not currently using their handsets to view videos but were interested in doing so. Some of the everyday uses of cell phones included e-mailing (91.7% of respondents), camera functions (77.7%), Internet searching (46.7%), and watching TV (28.0%). In the future, respondents hoped there would be cell phones with high-speed data transmission that could be used to send and receive PC files (47.7%), for video services such as You Tube (46.9%), for downloading music albums (45.3%) and music videos (40.8%), and for downloading long videos such as movies (39.2%).

Frequency vs Class Midpoints (frequency polygon)

Unemployment Rates for Canada (histogram)

Pie chart of oil companies:
- Exxon Mobil 38.8%
- Chevron 21.9%
- ConocoPhillips 18.6%
- Valero Energy 10.1%
- Marathon Oil 6.2%
- Sunoco 4.4%
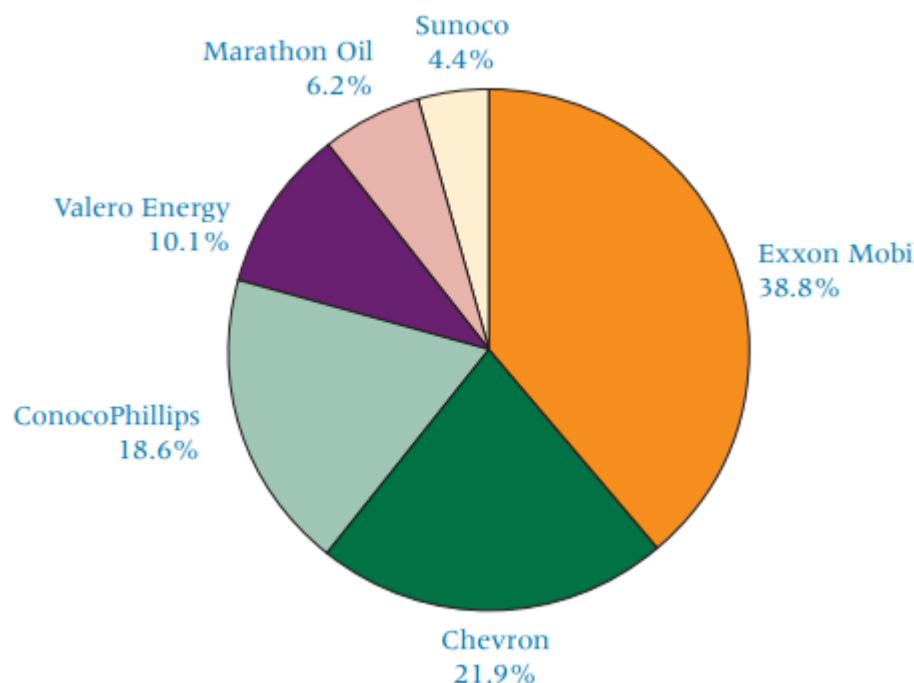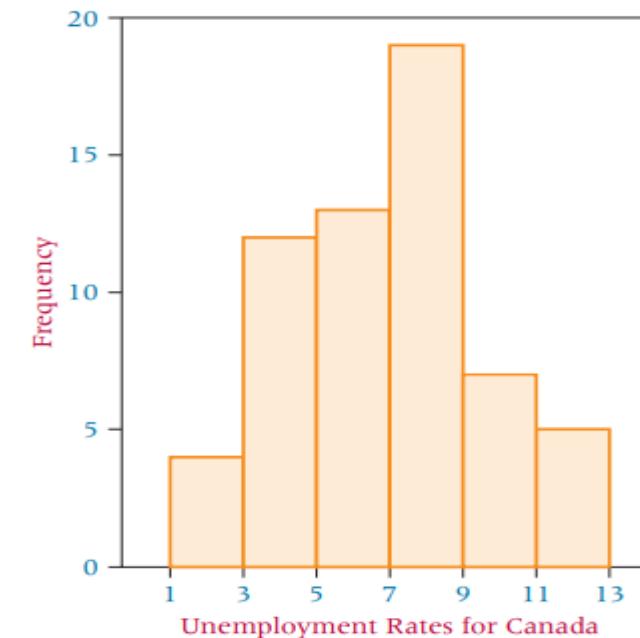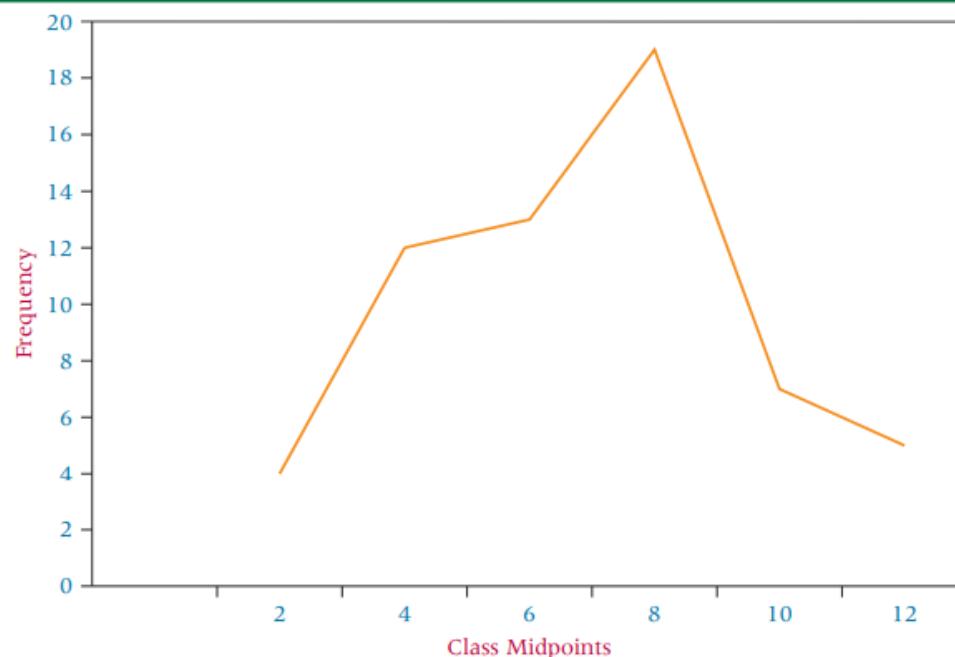
FIGURE **3.19** Correct Pictogram

Shareholders Get More for Their Money

Return on Coca-Cola's shareholders' equity, in percent.

9.7%   15.3%   22.1%   29.5%
'85   '87   '91   '92
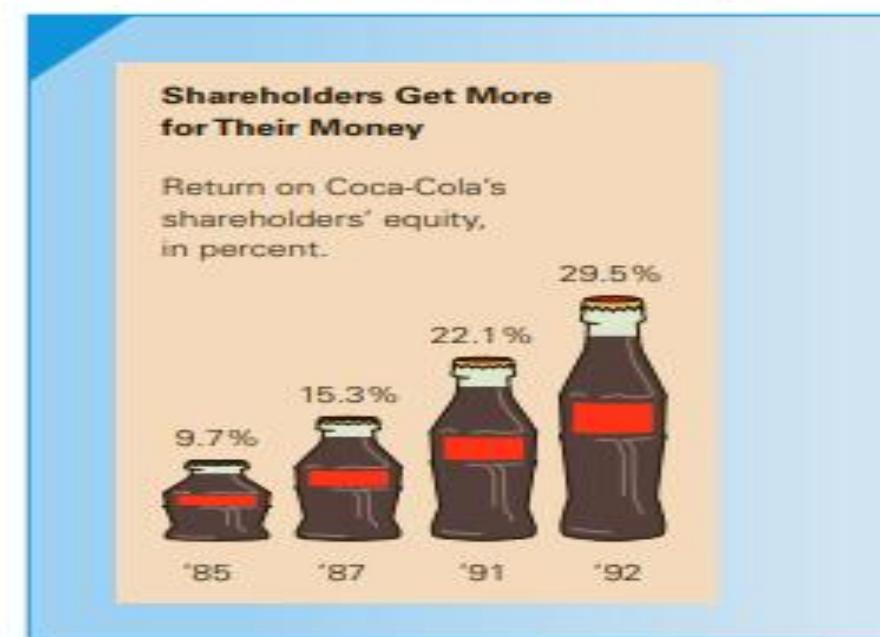
PROBLEMS-1

questions are sometimes asked on such a survey. These questions will result in what level of data measurement?

1. How long ago were you released from the hospital?
2. Which type of unit were you in for most of your stay?
   __Coronary care
   __Intensive care
   __Maternity care
   __Medical unit
   __Pediatric/children's unit
   __Surgical unit
3. In choosing a hospital, how important was the hospital's location?

(circle one)

Very Important	Somewhat Important	Not Very Important	Not at All Important

4. How serious was your condition when you were first admitted to the hospital?

   __Critical   __Serious   __Moderate   __Minor

5. Rate the skill of your doctor:

   __Excellent   __Very Good   __Good   __Fair   __Poor

PROBLEMS-2

MANUFACTURING DATABASE

This database contains eight variables taken from 20 industries and 140 subindustries in the United States. Some of the industries are food products, textile mill products, furniture, chemicals, rubber products, primary metals, industrial machinery, and transportation equipment. The eight variables are Number of Employees, Number of Production Workers, Value Added by Manufacture, Cost of Materials, Value of Industry Shipments, New Capital Expenditures, End-of-Year Inventories, and Industry Group. Two variables, Number of Employees and Number of Production Workers, are in units of 1,000. Four variables, Value Added by Manufacture, Cost of Materials, New Capital Expenditures, and End-of-Year Inventories, are in million-dollar units. The Industry Group variable consists of numbers from 1 to 20 to denote the industry group to which the particular subindustry belongs. Value of Industry Shipments has been recoded to the following l-to-4 scale.

1 = $0 to $4.9 billion
2 = $5 billion to $13.9 billion
3 = $14 billion to $28.9 billion
4 = $29 billion or more

ASSIGNMENT

Use the databases to answer the following questions.

1. In the manufacturing database, what is the level of data for each of the following variables?
   a. Number of Production Workers
   b. Cost of Materials
   c. Value of Industry Shipments
   d. Industry Group

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