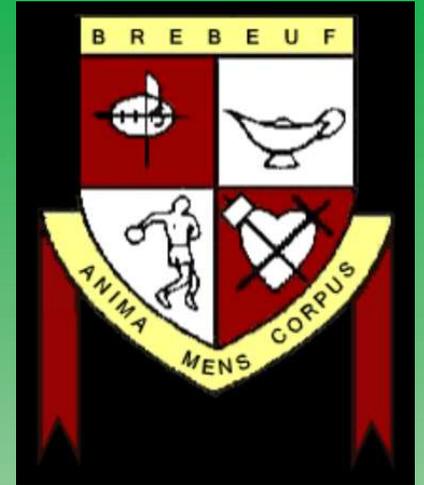


ST. JEAN DE BREBEUF
MATHEMATICS



CHAPTER 4.3

INTERPRET STATISTICS

IN THE MEDIA



CHAPTER 4.3

INTERPRET STATISTICS IN THE MEDIA

Advertisements often use **statistical claims** to convey a message

→ Statistics may be *manipulated* for their own purposes

Data in graphs are sometimes **not fully explained** in the media

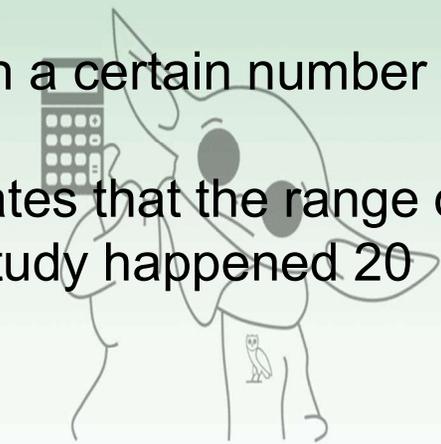
→ need to investigate changes in the economy or by characteristics such as size of a population

The term “**real**” is often used with *economic* statistics

→ refers to eliminating the effects of inflation so changes in data can be compared relative to a fixed starting date

Statistical studies often state they are accurate to within a certain number of percentage points

→ When someone says “19 times out of 20”, this indicates that the range of predictable values would occur 95% of the time if the study happened 20 times



CHAPTER 4.3

INTERPRET STATISTICS IN THE MEDIA

When *challenging* a claim from an advertisement or to validate its claim, you could ask questions based on the “**Five W’s**”

→ *Who, What, Where, When, Why*

EXAMPLE 1 *Brand Comparison*

An advertisement made the claim, “In a recent side-by-side blind taste test, more people preferred Coca Cola over *Pepsi*.”



What questions can you ask to challenge or validate this claim?

- Who was surveyed?
- Who conducted the tests?
- What other brands were being tested/compared?
- How many people were surveyed?



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CHAPTER 4.3

INTERPRET STATISTICS IN THE MEDIA

EXAMPLE 2 *Political Polls*

A newspaper report included this statement: “The President has the approval of 45% of the population. This is accurate to within three percentage points, 19 times out of 20.” Explain the meaning of this statement



If poll was conducted **20 times**, the President would have an approval rate between **42% to 48% (45% \pm 3%)**.

→ This would occur **19 out of 20 times** or **95% of the time**

THIS STATEMENT WILL BE MORE ACCURATE IF YOU HAVE A LARGE SAMPLE SIZE!!!



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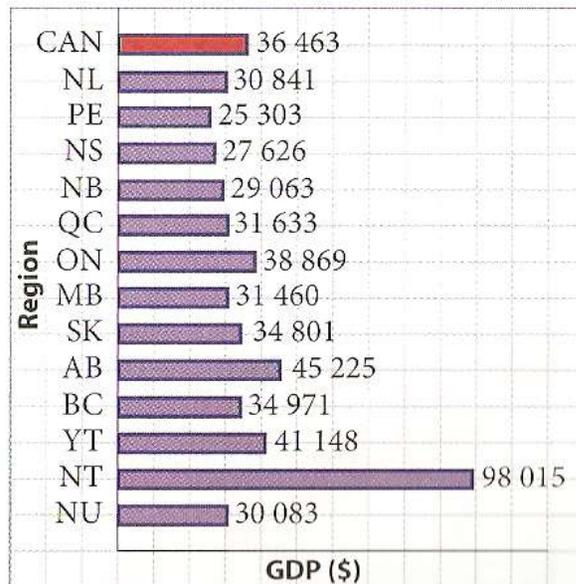
CHAPTER 4.3

INTERPRET STATISTICS IN THE MEDIA

EXAMPLE 3 Gross Domestic Product

The graph shows Canada's real per capita **Gross Domestic Product (GDP)**

Real Per Capita Gross Domestic Product (GDP),
by Region, 2008 (1997 dollars)



(a) What is meant by the terms listed below:

“Real”: *An economic term which represents the value (in dollars) when the effects of inflation are subtracted or not factored in*

“Per capita”:

Refers to values “per person”

“1997 dollars”:

*The value (in dollars) including the effects of **inflation***



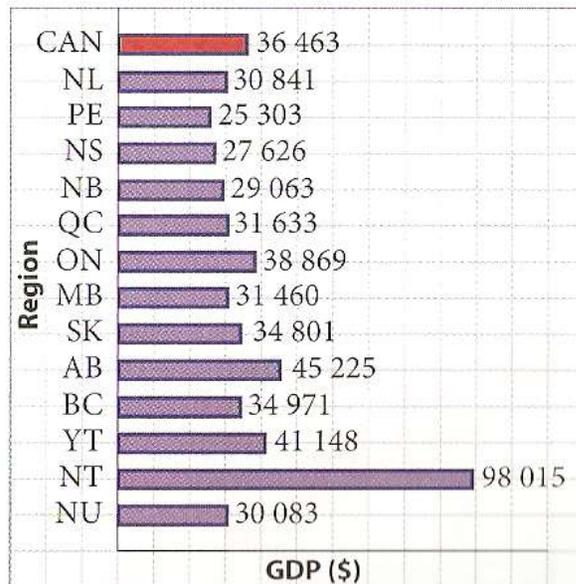
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INTERPRET STATISTICS IN THE MEDIA

EXAMPLE 3 Gross Domestic Product

The graph shows Canada's real per capita **Gross Domestic Product (GDP)**

Real Per Capita Gross Domestic Product (GDP),
by Region, 2008 (1997 dollars)



(a) Describe what the graph shows

*Graph shows the average value of goods **per person** for each province in Canada*

(b) Why is the *per capita* GDP so much higher in the Northwest Territories than in the other provinces or territories?

GDP per capita is calculated by
 $GDP \div POPULATION$

→ Higher per capita GDP value in Northwest Territories indicates that the population is relatively small

CHAPTER 4.3

INTERPRET STATISTICS IN THE MEDIA

HOMework / SEATWORK

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