

## 2.3 Measuring Change

### SPECIFIC OBJECTIVES

By the end of this lesson, you should understand that

- a relative change is different from an absolute change.
- a relative measure is always a comparison of two numbers.

By the end of this lesson, you should be able to

- calculate a relative change.
- explain the difference between relative change and absolute change.

### PROBLEM SITUATION 1: SALARY INCREASES

The table below shows the 2015 and 2016 salaries of three employees at a company named Flexcorp.

Employee	2015 Salary	2016 Salary
Maria Chavez	\$40,000	\$43,200
Peter Chin	\$30,000	\$33,000
Lawrence Cromwell	\$25,000	\$27,500

- (1) Calculate the raise that each employee received between 2015 and 2016.

Maria Chavez:

Peter Chin:

Lawrence Cromwell:

The raises calculated above each represent the **absolute change** in the employees' salaries. The absolute change is the total amount of change between two numbers. In the event of an increase, the absolute change is positive. In the event of a decrease, the absolute change is negative.

- (2) At first Maria Chavez was pleased with her raise. But when she learned the amounts of her colleagues' raises, she went to see the CEO of the company and complained that the amount of her raise was too low, compared to the others'. What mathematical justification might Maria have for arguing that her raise was too low?

(3) Based on your discussion of Maria's situation, what do you think would be a fair raise for Maria to receive?

### MAKING CONNECTIONS

Record the important mathematical ideas from the discussion.

**Absolute change is a subtraction (NEW – OLD).**

Relative change is a division (percentage) = (NEW - OLD)/OLD

= absolute change divided by original