

## 2.2 Problem Solving with Decimal Numbers (Paper & Pencil)

Prescribed Learning Outcomes (PLO'S):

- Perform operations on Rational numbers in decimal form **without** a calculator

**Example 1:** Estimate using the closest integer numbers and then solve without using a calculator.

a.  $2.65 + (-3.81)$

b.  $-5.96 - (-6.83)$

c.  $-4.38 + 1.52$

d.  $-1.25 - 3.55$

**Example 2:** Estimate and evaluate without using a calculator.

a.  $0.45 \times (-1.2)$

b.  $-2.3 \div (-0.25)$

c.  $-1.4(-2.6)$

d.  $-2.76 \div 1.2$

## 2.2 Problem Solving with Decimal Numbers (Calculator)

Prescribed Learning Outcomes (PLO'S):

- Solve problems involving Rational numbers in decimal form.

**Order of Operations:** To evaluate expressions correctly we need to obey the order of operations (BEDMAS). Brackets, Exponents, Division & Multiplication in the order they occur, Addition & Subtraction in the order they occur.

**Example 1:** Determine each value using a calculator. Show all your intermediate steps.

a.  $-5.6 + 8.1 \div -2.7$

b.  $[5.7 - (-2.1)] \times 9.5$

c.  $(4.7 - 7.1)(5.6 - 11.8)$

d.  $-4.8 - 3.2 \times (-6.5) - 5.7$

**Example 2:** On Saturday, the temperature at the Blood Reserve near Stand Off, AB decreased by  $1.2\text{ }^{\circ}\text{C/h}$  for 3.5 h. It then decreased by  $0.9\text{ }^{\circ}\text{C/h}$  for 1.5 h.

- a. What was the total decrease in temperature?
- b. What was the mean rate of decrease in temperature?

**Example 3:** A hot-air balloon climbed at  $0.8\text{ m/s}$  for 10 s. It then descended at  $0.6\text{ m/s}$  for 6 s.

- a. What was the overall change in altitude?
- b. What was the average rate of change in altitude?