***University of Tlemcen Academic year 2023-2024 Faculty of technology STI Department of Hydraulics***

***Prerequisite test***

***Exercise 01***

Calculate the molar masses of the following compounds:

– Aluminum oxide: CO2, H2O, Al2O3;

– Propane: C4H10

Data:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Element** | C | H | O | Al |
| **Atomic molar mass (g/mol)** | 12 | 1 | 16 | 27 |

***Exercise 02***

A propane cylinder with formula C3H8 contains 12.98 kg of liquefied gas.

-Calculate the quantity of matter of propane in this cylinder.

Data: M(C)= 12 g/mol; M(H)= 1g/mol

***Exercise 03***

Calculate the following integrals:

$$ ; $$

**References for students in case of failure in the prerequisite test:**

- M. Guymont, Structure de la matière, Belin Coll., 2003.

- el.unisciel.fr/physique/outils\_nancy/outils\_nancy\_ch08/co/apprendre\_ch08\_04.html

-G. Devore, Chimie générale : T1, étude des structures, Coll. Vuibert, 1980.