UNIVERSITY OF
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PROFESSIONAL SKILLS AND GROUP STUDY

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TASK1

The task aims to Format the document.

•Open a new Word documents

- Use Word Header & Footer to insert a header, including your last name and the page number, positioned at the top right side. **(StudentID_LASTNAME_FIRSTNAME_MTH1007M_CW1)**
- Use Word Header & Footer to insert a page number and date. Your name should be separated from the number using a vertical line, like "Smith | 1"

TASK 2

The aim of this question is to use the editor equation

Write down the following formulas

$$\sum_{k=1}^{n} k^2 = \frac{1}{2}n(n+1)(2n+1)$$

$$y = 1 + 3x + 3x^3$$

$$f(x) = \frac{1}{\sqrt{4 - x^2}}$$

$$\frac{\partial L}{\partial r_k} - \frac{d}{dt}\frac{\partial L}{\partial \dot{r}_k} + \sum_{i=0}^{C} \lambda_i \frac{\partial f_i}{\partial r_k} = 0$$

$$\oint_{\partial V} \vec{\mathbf{F}} \cdot d\vec{\mathbf{S}} = \int_S (\nabla \cdot \vec{\mathbf{F}}) \cdot dV$$

TASK 2

$$\vec{\mathbf{F}}(x, y, z) = \frac{1}{4\pi} \frac{b\,\vec{\mathbf{r}}}{(x^2 + y^2 + z^2)^{3/2}}$$

THE AIM OF THIS QUESTION IS TO USE THE EDITOR EQUATION

WRITE DOWN THE FOLLOWING FORMULAS

TASK 2

$$\nabla \times \vec{\mathbf{F}} = \begin{vmatrix} \hat{\mathbf{u}}_r & \hat{\mathbf{u}}_\theta & \hat{\mathbf{u}}_\phi \\ \frac{\partial}{\partial r} & \frac{1}{r}\frac{\partial}{\partial \theta} & \frac{1}{r\sin\theta}\frac{\partial}{\partial \phi} \\ F_r & F_\theta & F_\phi \end{vmatrix}$$

$$\nabla \times \vec{\mathbf{F}} = \left(\frac{1}{r\sin\theta}\frac{\partial(\sin\theta\, F_\phi)}{\partial\theta} - \frac{\partial F_\theta}{\partial\phi}\right)\hat{\mathbf{u}}_r +$$

$$+\frac{1}{r}\left(\frac{1}{\sin\theta}\frac{\partial F_r}{\partial\phi} - \frac{\partial(rF_\phi)}{\partial r}\right)\hat{\mathbf{u}}_\theta + \frac{1}{r}\left(\frac{\partial(rF_\theta)}{\partial r} - \frac{\partial F_r}{\partial\theta}\right)\hat{\mathbf{u}}_\phi$$

TASK 3

The aim of this question is to use format a picture

1. Go to Wikipedia page: search for Lagrange.
2. Download a picture of Lagrange.

- Include captions **BELOW** figures using the Word ***Captions*** tool.

- Insert a short paragraph and refer to the figure in the body using **cross-referencing**, also found under the Word ***Captions*** tool. Use the "Only Label and Number" option when inserting cross-references such that the references appear as "Table 1" or "Figure 1" in the body of the report.

TASK 4

THE AIM OF THIS QUESTION IS TO USE THE BIBLIOGRAPHY TOOL

STARTING FROM THE FILE CREATED IN QUESTION 3

1. INSERT TWO REFERENCES FIELD LISTED BELOW .
2. CREATE A SHORT TEXT PARAGRAPH AND CITE ALL OF REFERENCES BELOW.

References [edit]

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- *Columbia Encyclopedia*, 6th ed., 2005, "Lagrange, Joseph Louis."
- W. W. Rouse Ball, 1908, "Joseph Louis Lagrange (1736–1813)" *A Short Account of the History of Mathematics*, 4th ed. also on Gutenberg
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- Fraser, Craig G., 2005, "Théorie des fonctions analytiques" in Grattan-Guinness, I., ed., *Landmark Writings in Western Mathematics*. Elsevier: 258–76.
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