**Maths (Advocate: Thiago Viana)**

**Calculate the greatest common divisor and least common multiple of a given pair of numbers.**

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| Link: https://github.com/matthewsides/Mathematics |
| The evidence is within the README.md of the GitHub repository "Mathematics" and is applicable as the content pertains to the calculation of the GCD and LCM of a given pair of numbers, explaining how, giving examples. |

**Use relevant theory to sum arithmetic and geometric progressions.**

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| Link: https://github.com/matthewsides/Mathematics |
| The evidence for the above criteria can be seen within the txt (notepad) file with C++ code within that shows an relevant theory to sum arithmetic and geometric progressions. Whilst in the README.md documentation under the heading "Algorithm to calculate arithmetic and geometric progressions" more evidence is displayed through a written algorithm not translated into a High-Level-Language but written and detailed in english. |

**Deduce the conditional probability of different events occurring within independent trials.**

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| Please use this section to provide all appropriate, valid and checked http Links that point to your evidence; use multiple lines to separate multiple links |
| Please provide a short (between 3 to 8 well considered, fully proofread and reflected sentences) explanation that justifies why the evidence/links you have provided is suitable as evidence of this requirement  On ITSLEARNING, in the resources folder you will find my slides. There is a slide about probability, you should explain with your own words how to calculate the probabilities that we did in class. |

**Identify the expectation of an event occurring from a discrete, random variable.**

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| Link: https://github.com/matthewsides/Mathematics |
| This is shown within the repository labeled "Mathematics", in the README.md under the heading "What is the probability of a random integer being divisible by five?", which explains the probability of a random integer being divisible by five, also going into detail as to hoe this is plausible. |

**Identify simple shapes using co-ordinate geometry.**

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| Please provide a short (between 3 to 8 well considered, fully proofread and reflected sentences) explanation that justifies why the evidence/links you have provided is suitable as evidence of this requirement  A link to the algorithm that we created in the TASK 4 in my sessions:   * **Algorithm** to identify simple shapes using co-ordinates   OBS: The simple shapes that we used are: square, rectangle and triangle |

**Determine shape parameters using appropriate vector methods.**

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**Determine the rate of change within an algebraic function.**

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**Use integral calculus to solve practical problems involving area.**

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| Please provide a short (between 3 to 8 well considered, fully proofread and reflected sentences) explanation that justifies why the evidence/links you have provided is suitable as evidence of this requirement  A link to your TASK 6 in my sessions:   * **Simple report,** how to use integral calculus to solve practical problems involving area. |

**Identify multiplicative inverses in modular arithmetic.**

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**Calculate probabilities within both binomially distributed and normally distributed random variables.**

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**Evaluate the coordinate system used in programming a simple output device.**

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| Link: https://github.com/matthewsides/Project01-TraceBall |
| This is evidenced in the GitHub repository "project01-traceball"  You did this in the project 1. You used coordinates to create a shape (or image) and made this shape(or image) follow the mouse. The mouse is the input and the shape(or image) is the output element. And you had to use coordinates to implement them. All you need to do is describe this process and provide a link to your project 1. |

**Analyse maxima and minima of increasing and decreasing functions using higher order derivatives.**

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**Produce a detailed written explanation of the importance of prime numbers within the field of computing.**

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**Evaluate probability theory to an example involving hashing and load balancing.**

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**Construct the scaling of simple shapes that are described by vector coordinates.**

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**Justify, by further differentiation, that a value is a minimum.**

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