**Maths (Advocate: Thiago Viana)**

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

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| <https://github.com/s-j-pearce/Maths/blob/master/README.md#11-how-to-calculate-the-greatest-common-divisor-and-the-least-common-multiple> |
| This link will take you to an area of my mathematics document where I discuss how to calculate the greatest common divisor and the least common multiple of a given pair of numbers. |

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

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| <https://github.com/s-j-pearce/Maths/blob/master/README.md#12-arithmetic-and-geometric-progressions> |
| This link will take you to an area of my Mathematics repository where I show the code of an algorithm I used to calculate Arithmetic and geometric progressions. |

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

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| <https://github.com/s-j-pearce/Maths/blob/master/README.md#13-conditional-probability> |
| This link will take you to an area of my Mathematics repository where I talk about conditional probability and how to understand it as well as give examples to better the understanding behind it. |

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

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| <https://github.com/s-j-pearce/Maths/blob/master/README.md#14-probability-of-a-random-integer-being-divisible-by-5> |
| This link will take you to an area of my Mathematics repository where I discuss the probability of a random integer being divisable by the number 5. |

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

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| <https://github.com/s-j-pearce/Maths/blob/master/README.md#15-simple-shapes-using-co-ordinate-geometry> |
| This link will take you to an area of my Mathematics repository where I show you the code that I developed to calculate 3 simple shapes(Square, Rectangle and a Triangle) using co-ordinate geometry. |

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

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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  TO DO (you can leave it blank now, we are going to address this un future sessions) |

**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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| <https://github.com/s-j-pearce/Maths/blob/master/README.md#16-integral-calculus-to-solve-practical-problems-involving-area> |
| This link will take you to an area of my Mathematics repository where I take a look at both integral and calculus and how they can be used to solve practicle 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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| <https://github.com/s-j-pearce/HND-VG-PROJECT-1> |
| The link above will take you to my first ever project. For this project I had to use co-ordinates in order to create a shape and make that shape follow the position of the mouse over a canvas. The shape used the coordinates to move around, also we used the co-ordinates to spawn in a type of NPC which would follow the shape following the mouse. This NPC would slow down as it got closer to the mouse shape in order to allow the person controlling it time to react and move away from it, this was the idea of the game. |

**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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