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| Kimberley School |
| Year 12 Summer Assignment |
| Total Marks: 120 |

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| Kimberley Mathematics Department  1/1/2016 |

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| Mark | Grade | Target grade | |
| Strength: | | | |
| Feed forward: Please read my notes and redo incorrect questions in red pen, hand in for remarking. | | | |
| S  P &  G | | | |
| Remarking: 100% achieved? | | | Yes/No |

**Indicate your final answers by highlighting or underlining**

**Section 1 – Algebra**

(Total: 80 Marks)

1. Factorise fully;

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(15 Marks)

1. Evaluate the following expressions giving your answers in exact form

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(20 marks)

1. Simplify the following fractions

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(15 Marks)

1. Rearrange the following equations to make the subject

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(10 Marks)

1. Solve the following pairs of simultaneous equations

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(20 Marks)

**Section 2 – Number**

(Total: 20 Marks)

Calculate the following showing your working and simplifying where appropriate;

A)

………………………………………………………………………………………………………………………

B)

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C)

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D)

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E)

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(10 Marks)

F) Express the following in the form

i) …………………………………………………………………………………………….

ii) …………………………………………………………………………………………….

iii) …………………………………………………………………………………………….

iv) ………………………………………………………………………………..

……………………………………………………………………………….. (7 Marks)

G) Rationalise the denominator of each of these fractions, simplify where appropriate

i) ………………………………………………………………………………………………………………………

ii) ………………………………………………………………………………………………………………………

iii) ……………………………………………………………………………………………………………………… (3 Marks)

**Section 3 – Coordinate Geometry**

(Total: 20 Marks)

1. Plot the following lines on the axes provided;

(6 Marks)

1. For the points A, B and C, which are at coordinates (1 , 3) , (-2 , -3) and (2 , -5) respectively, find;
2. The exact distance between B and C

………………………………………………………………………………………………………………………

1. The midpoint of the line AB

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1. The gradient of the line BC

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1. The equation of the line going through A and B

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1. The coordinates where the line going through A and B intercept with the axes

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1. The equation of any line parallel to the line AB

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1. The algebraic reason that AB is perpendicular to BC

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(14 Marks)