**TERM 3 – 2022**

**MATHEMATICS FORM 2**

**121/1**

**Paper 1**

**MARKING SCHEME**

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| **NO.** | **WORKING** | **MARKS** | **REMARKS** |
|  |  | M1  M1  A1 | Fraction saved |
| **3** |
|  | 1. GCD 2. Number of Tiles | B1  M1  A1 |  |
| **3** |
|  |  | M1  M1  A1 |  |
| **3** |

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| **NO.** | **WORKING** | **MARKS** | **REMARKS** |
|  | |  |  |  | | --- | --- | --- | |  | 10 years ago | Now | | Mary |  |  | | Ruth |  |  | | M1  A1  B1 | Equating sum of current ages to 56  Value of  Both ages correct |
| **3** |
|  |  | M1  M1  A1 | Factorization of numerator  Factorization of denominator |
| **3** |
|  |  | M1  M1  A1 | Expression for perimeter to be fenced  Expression for number of rolls  14 rolls seen |
| **3** |
|  |  | B1  B1  B1 |  |
| **3** |

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| **NO.** | **WORKING** | **MARKS** | **REMARKS** |
|  |  | B1  B1  B1 | Completing the solid  Showing hidden lines  Correct labeling |
|  |  | **3** |  |
|  | |  |  |  | | --- | --- | --- | | **Number** | **Std form** | **Logarithm** | |  |  |  | |  |  |  | |  |  |  | |  |  |  | |  |  |  | | M1  M1  M1  A1 | *Reject all if logs from calculator used*  All logs correct i.e. , and seen.  Correct addition and subtraction of logs i.e. and seen  Correct multiplication of logs by 2 and i.e. and seen  seen |
|  |  | **4** |  |

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| **NO.** | **WORKING** | **MARKS** | **REMARKS** |
|  |  | M1  M1  A1 | Expressing in index form  Simplification |
| **3** |
|  |  | M1  M1  A1 | Converting to Kshs.  Converting to USD  USD 6,651 |
| **3** |
|  |  | M1  M1  A1 | Area scale factor |
| **3** |
|  |  | M1  A1  M1  A1 |  |
| **4** |
|  |  | B1  M1  A1 | in column form or in terms of and  Expression for modulus  7.07 seen |
| **4** |

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| **NO.** | **WORKING** | **MARKS** | **REMARKS** |
|  |  | B1  B1  B1  B1 | PQ = 7.4 cm ± 0.1 cm drawn  Construction of 900 at P and S  Construction of 1050  Locating R/completing trapezium |
| **4** |
|  |  | B1  B1  B1 |  |
| **3** |

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| **NO.** | **WORKING** | **MARKS** | **REMARKS** |
|  | 1. Scale drawing      1. Using scale drawing 2. Distance **K** and **M** 3. Bearing P from L 4. Locating T | S1  B1  B1  B1  B1  B1  B1  B1  B1  B1 | Given scale  Locating **L**  Locating **M**  Locating **N**  Locating **P**  KM in cm  KM in km  Bearing (S240W)  Bisecting PN and PK  Locating T |
| **10** |

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| **NO.** | **WORKING** | **MARKS** | **REMARKS** |
|  | 1. (i) Amount shared   (ii) Amount received | M1  A1  M1  A1  M1  A1  M1  M1  A1  B1 | Multiplying by and by  Ratio simplified  Sum of shared equally and shared in ratio  Amount received equally  Ratio of Eric: Bryan  Eric’s total  Bryan’s total |
| **10** |

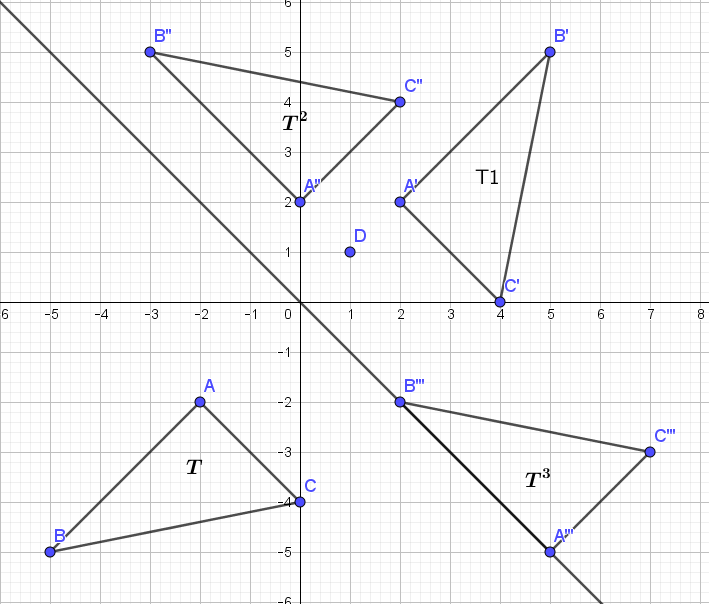
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| **NO.** | **WORKING** | **MARKS** | **REMARKS** |
|  | 1. Height 2. Surface Area   CSA=  CSA=3.142  CSA=3.142×2304.886115  CSA=7241.95  Top = 3.142×30×30=2,827.8  Bottom = 3.142×20×20=1256.8  Total  Total = 11,326.55 | M1  A1  M1  M1  M1  A1  M1, M1  M1  A1 |  |
| **10** |

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| **NO.** | **WORKING** | **MARKS** | **REMARKS** |
|  | 1. Frequency distribution table  |  |  |  |  |  | | --- | --- | --- | --- | --- | | Mass | Tally |  |  |  | | 20 – 29 | ~~////~~ | 5 | 24.5 | 122.5 | | 30 – 39 | ~~////~~ ~~////~~ // | 12 | 34.5 | 414 | | 40 – 49 | ~~////~~ ~~////~~ | 9 | 44.5 | 400.5 | | 50 – 59 | ~~////~~ / | 6 | 54.5 | 327 | | 60 – 69 | /// | 3 | 64.5 | 193.5 | |  |  | Ʃ=35 |  | Ʃ=1457.5 |  1. Mean 2. Histogram     Total area = 350 hecatres | B1  B1  B1  M1  A1  B1  B1  B1  M1  A1 | All classes  All correct  All correct  Expression of mean |
| **10** |

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| **NO.** | **WORKING** | **MARKS** | **REMARKS** |
|  | 1. Total distance      1. (i) 8.22 a.m. – 7.12 a.m. = 1 hr 10 minutes       Time of the day = 8.22 a.m. + 3 hours = 11.22 a.m.  (ii) Bus distance | M1  M1  A1  M1  M1  M1  A1  M1  M1, A1 | Total distance and relative speed  Expression for time  Time in seconds  Distance between them at 8.22  Relative speed  Duration to catch up |
| **10** |

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| **NO.** | **WORKING** | **MARKS** | **REMARKS** |
|  | 1. (i) – Before   (ii) – After   1. Value of   Either hence  Or thus (discriminate)  Hence number   1. Profit | M1  M1  M1  M1  M1  A1  B1  M1  A1 | Amount before  Amount after  Expression for difference  Quadratic equation formed  Factorization  Both values seen  15 seen |
| **10** |

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| **NO.** | **WORKING** | **MARKS** | **REMARKS** |
|  | 1. (i) and   (ii) described   1. Rotation   and   1. Translation 2. and , | B1  B1  B1  B1  B1  B1  B1  B1  B1  B1 | Drawing  Drawing  Reflection  Along y+x=0  Rotation about (1, 1)  Drawing  Coordinates of  Translation  Drawing  Pairs of opposite congruency |
| **10** |



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| **NO.** | **WORKING** | **MARKS** | **REMARKS** |
|  | 1. Equation of L1 2. Equation of L1 3. Coordinates of P   At  Hence   1. (i) intercept of L2     (ii) Angle of L2 with x-axis | M1  M1  A1  M1  A1  M1  M1  A1  M1  A1 | Gradient of  Equating to gradient  seen  In coordinate form  Gradient of |
| **10** |