**TERM 3 – 2022**

**MATHEMATICS FORM 2**

 **121/1**

**Paper 1**

**MARKING SCHEME**

|  |  |  |  |
| --- | --- | --- | --- |
| **NO.** | **WORKING** | **MARKS** | **REMARKS** |
|  |  | M1M1A1 | Fraction saved |
| **3** |
|  | 1. GCD
2. Number of Tiles
 | B1M1A1 |  |
| **3** |
|  |  | M1M1A1 |  |
| **3** |

|  |  |  |  |
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| **NO.** | **WORKING** | **MARKS** | **REMARKS** |
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|  |  |  |
| --- | --- | --- |
|  | 10 years ago | Now  |
| Mary |  |  |
| Ruth |  |  |

 | M1A1B1 | Equating sum of current ages to 56Value of Both ages correct |
| **3** |
|  |  | M1M1A1 | Factorization of numeratorFactorization of denominator |
| **3** |
|  |    | M1M1A1 | Expression for perimeter to be fencedExpression for number of rolls14 rolls seen |
| **3** |
|  |  | B1B1B1 |  |
| **3** |

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| **NO.** | **WORKING** | **MARKS** | **REMARKS** |
|  |  | B1B1B1 | Completing the solidShowing hidden linesCorrect labeling  |
|  |  | **3** |  |
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| **Number** | **Std form**  | **Logarithm**  |
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|  |  |  |

 | M1M1M1A1 | *Reject all if logs from calculator used*All logs correct i.e. , and seen.Correct addition and subtraction of logs i.e. and seenCorrect multiplication of logs by 2 and i.e. and seen seen |
|  |  | **4** |  |

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| **NO.** | **WORKING** | **MARKS** | **REMARKS** |
|  |  | M1M1A1 | Expressing in index formSimplification  |
| **3** |
|  |  | M1M1A1 | Converting to Kshs.Converting to USDUSD 6,651 |
| **3** |
|  |  | M1M1A1 | Area scale factor |
| **3** |
|  |    | M1A1M1A1 |  |
| **4** |
|  |     | B1M1A1 |  in column form or in terms of and Expression for modulus7.07 seen |
| **4** |

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| **NO.** | **WORKING** | **MARKS** | **REMARKS** |
|  |  | B1B1B1B1 | PQ = 7.4 cm ± 0.1 cm drawnConstruction of 900 at P and SConstruction of 1050Locating R/completing trapezium |
| **4** |
|  |  | B1B1B1  |  |
| **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
 | S1B1B1B1B1B1B1B1B1B1 | Given scaleLocating **L**Locating **M**Locating **N**Locating **P**KM in cmKM in kmBearing (S240W)Bisecting PN and PKLocating T |
| **10** |

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| **NO.** | **WORKING** | **MARKS** | **REMARKS** |
|  | 1. (i) Amount shared

(ii) Amount received | M1A1M1A1M1A1M1M1A1B1 | Multiplying by and by Ratio simplified Sum of shared equally and shared in ratioAmount received equallyRatio of Eric: BryanEric’s total Bryan’s total  |
| **10** |

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| **NO.** | **WORKING** | **MARKS** | **REMARKS** |
|  | 1. Height
2. Surface Area

CSA=CSA=3.142CSA=3.142×2304.886115CSA=7241.95 Top = 3.142×30×30=2,827.8Bottom = 3.142×20×20=1256.8Total Total = 11,326.55 | M1A1M1M1M1A1M1, M1M1A1 |  |
| **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  | B1B1B1 M1A1B1B1B1M1A1 | All classesAll 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   | M1M1A1M1M1M1A1M1M1, A1 | Total distance and relative speedExpression for timeTime in secondsDistance between them at 8.22Relative speedDuration 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
 | M1M1M1M1M1A1B1M1A1 | Amount beforeAmount afterExpression for differenceQuadratic equation formedFactorization Both values seen15 seen |
| **10** |

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| **NO.** | **WORKING** | **MARKS** | **REMARKS** |
|  | 1. (i) and

(ii) described 1. Rotation

 and 1. Translation
2. and ,
 | B1B1B1B1B1B1B1B1B1B1 | Drawing Drawing Reflection Along y+x=0Rotation 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 | M1M1A1M1A1M1M1A1M1A1 | Gradient of Equating to gradient seenIn coordinate formGradient of  |
| **10** |