**SET 3**

**MATHEMATICS 121/1**

**MARKING SCHEME**

|  |  |  |  |
| --- | --- | --- | --- |
| 1 | 6  -6 | M1  M1  A1  03 | Multiply by LCM |
| 2 | grad of = ½    y=mx +c | B1  M1  A1  02 | Accept alteration |
| 3. | 90-A  √132-52=12  5  13      =12  Tan (90-A)= | B1  B1  02 |  |
| 4 |  | B1  M1  M1  A1  04 | Numerator  Denominator  Introducing on either num or den |
| 5 | =  A.S.F=  Area of smaller Δ =  = 149.333  Area QRST =  =186.7 | B1  M1  M1  04 |  |
| 6 | ∴8100= (8100x 0.45) | M1  M1  A1  03 |  |
| 7 | 𝑥=0 | M1  A1  02 |  |
| 8 |  | M1  M1  A1  03 |  |
| 9 |  | M1  M1  A1  03 |  |
| 10 | =  ÷ | M1  M1  A1  03 | Solve base |
| 11 |  | M1  A1  B1  A1  04 |  |
| 12 | (a)    (b)  =63172 | M1  A1  M1  A1  04 |  |
| 13 | (a)      (b) | B1  M1  A1  03 |  |
| 14 |  | B1  B1  B1  03 |  |
| 15 | = 17.64 | M1  A1  B1  03 |  |
| 16 | D562365E  **Q**  **R**  **S**  **P** | B1  B1  B1  B1 | Construct of 75o  ∠SPQ  PS and PQ  Completion of 11  Height 3.9±1 |
| 17. | (a)(i)      (ii) Height =          (b)    Man = | M1M1  A1  B1  M1M1  A1  M1  M1  A1  10 | Accept 441.86 and 414.69 for different .π  Accept 754.29  Or  753.98 |
| 18. | Max speed        (b) Decelaration =    (c) Distance in 40 last sec      area =    (d) Time in sec to travel  of journey | M1  M1  A1  M1  A1  B1  B1  M1  A1  B1  10 |  |
| 19 | B3AC9AAD  **5cm**  **7.5cm**  **T**  **R**  **S**  (b)(i)    (ii) Bearing of T from S  221o  (c) | B1  B1  B1  B1  A1  B1  M1  M1  A1 | Lengths 5cm bearing 300o  Length 7.5cm south R  Completed Δ  Follow  Accept other methods  Accept  5.7ha  5.9 ha |
| 20. | (a) C:Z          (b) (i)  100kg  (ii) Copper in A =  =90kg  Copper in B=        (c)Zinc =  Tin = | M1  A1  M1  A1  M1  M1  A1  M1  M1  A1  10 |  |
| 21 | (a) Modal class 40-44  (b)   |  |  |  |  |  | | --- | --- | --- | --- | --- | | class | x | f | c.f | fx | | 20-24  25-29  30-34  35-39  40-44  45-49  50-54  55-59 | 22  27  32  37  42  47  52  57 | 2  15  18  25  30  6  3  2 | 2  17  35  60  90  96  99  101 | 44  405  576  925  1260  282  156  114  3762 |   Mean=    ©Median =    37.7  Dif  =0.45 | B1  B1  M1  B1  M1  A1  M1  M1  A1  B1  10 | X value  Fx  c.f  Lower C.f 34.5 be used  16/25 x 5  Accept use of form  37.6  Or 0.35 |
| 22 | (a)    (b) (i)    R=25.2  (ii) Vol of metal sphere        (iii) Radius of sphere | M1  A1  M1  A1  M1M1  A1  M1  M1  A1  10 |  |
| 23 | (a) Ratio Juma: Akinyi = 5:3  Initial Juma    Initial sal Akinyi =    New earning for Akinyi =    % Akinyi =    (b) main earnings Juma 8400  Akinyi 5700  Ratio 84:57  Total money  No of sacks =  =12sacks  Sale of maize = | M1  A1  M1  M1M1  A1  M1  M1  M1  A1  10 |  |
| 24 | (a) ABC plotted = B1  (b) rotating B1  A1B1C1 cordinates B1  A1(-4,3) D1(-3,1) C1(-1,2)  (c) Line y=x B1  A11 B11C11 drawn B1  A11(3,-4) B11(1,-3) C11(2,1) B1  (d) Identification and drawing of lines  Through centre (0,-1) B1  A111 B111 C111 identified B1  Completed Δ A111 B111C111 B1  A111(-6,5) B111(-2,3) C111(-4,-1) B1  **10mks** |  |  |

