Form 2

MATHEMATICS

**MARKING SCHEME**

**SECTION I (50 MARKS)**

|  |  |  |  |
| --- | --- | --- | --- |
| **NO** | **WORKING** | **MARKS** | **REMARKS** |
|  | No Log Working  41.07 1.6135 +  0.03142 2.4972  **0.1107**  0.0156 2.1931 + 0.3824  5.8941 0.7704 1.1472    **2.9635** 3    1.1472    2.422 0.3824 | M1  M1  M1  A1 | 🗸 All logs  🗸 Addn & Subtr  🗸Attempt to divided by 3  C.A.O |
|  |  | 4 |  |
|  | Numerator: 36 –8 –4 + 5 = 36 + 32 + 5 = 73  Denominator : 3 –3 + –8(8) = –9 – 64 = – 73  ∴ | M1  M1  A1 | ✓Simplification of the num.  ✓Simplification of the den. |
|  |  | 3 |  |
|  | 130 x 1600 = 2080  100  80% = 2080  1% = 2080  80  100% = 2080 x 100  80  = sh.2600 | M1  M1  A1 |  |
|  |  | 3 |  |
|  |  | M1  M1  A1 |  |
|  |  | 3 |  |
|  | sum of interior angles of n-sided polygon  = (n - 2) 180  (n - 2) 180 = 1260  180n - 360 = 1260  180n = 1620  n = 1620 = 9  180  exterior angle = 360= 360 = 40o  n 9 | M1  M1  A1 |  |
|  |  | 3 |  |
|  | 247 - 7 = 240  367 - 7 = 360  607 - 7 = 600       2 x 2 x 2 x 3 x 5 = 23 x 3 x 5 = 120 | M1  M1  A1 | Subtracting 7 from each number  Correct table |
|  |  | 4 |  |
|  | let cost of trousers = x  let cost of shirt = y  3 (3x + 2y = 2400)  2(2x + 3y = 1975)    9x + 6y = 7200  4x + 6y = 2950  5x = 4250  x = 4250  5  = 850 (cost of trouser)    3x + 2y = 2400  3(850) + 2y = 2400  2250 + 2y = 2400  2y = 2400 - 2250  2y = 150  y = 75 (cost of shirt)    cost of 1 trouser + 4 shirts  850 + (4 x 75) = 850 + 300 = sh.1150 | M1  M1  A1 |  |
|  |  | 3 |  |
|  |  | M1  M1  A1 |  |
|  |  | 3 |  |
|  | Let  10a = 42.55555...  100a = 425.5555...  100a – 10a = 425.55555... – 42.55555...  90a = 383  Therefore x = 23 | M1  M1  A1 |  |
|  |  | 3 |  |
|  | Mass = density x volume  = 2.5 x 314.2  = 785.5g  = | M1  M1  A1 |  |
|  |  | 3 |  |
|  | -3/4 x  = x  =  = x | M1  M1  A1 |  |
|  |  | 3 |  |
|  | = 0.05676  28.281  (4 significant figures) | M1  M1  A1 |  |
|  |  | 3 |  |
|  | A = bh | M1  M1  A1 |  |
|  |  | 3 |  |
|  | |  |  |  |  | | --- | --- | --- | --- | | 2 | 30 | 15 | 84 | | 2 | 15 | 15 | 42 | | 3 | 15 | 15 | 21 | | 5 | 5 | 5 | 7 | | 7 | 1 | 1 | 7 | |  | 1 | 1 | 1 |     7x5x3x2x2 = 420 seconds =  11.00 pm + 7 mins  11:07 p.m | M1  M1  A1 |  |
|  |  | 3 |  |
|  |  |  |  |
|  | Ø = | M1  M1  A1 |  |
|  |  | 3 |  |
|  |  | M1  M1  A1 |  |
|  |  | 3 |  |

SECTION II (50 marks)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |  | |  |
|  | a) L1 : y - 2 = -1  x + 1 2  2y - 4 = -x - 1  2y - 4 = -x - 1  y = -1/2x + 3/2    b) L2 : m = 6 - -3 9  4 - 2 2  y - 6 = 9  x - 4 2  2y - 12 = 9x - 36  2y = 9x - 24  y = 9/2x – 12    c) -1/2x + 3/2 = 9/2x - 12  -5x = -13½  x = 27/2 x 1/5  = 27/10, y = 3/20  point of intersection (27/10, 3/20)    d) y - 6 = -1  x - 4 2  2y - 12 = -x + 4  2y = -x + 16  y = -½x + 8  e) gradient of L29/2  new gradient -2/9  y - -2 = -2  x - -2 9  9y + 18 = -2x - 4  9y = -2x - 22  y = -2/9x - 22/9 |  | |  |
|  |  | 10 | |  |
|  | 1. Managers annual salary =   Sh. 54 000   1. Retained profit = 2. Ratio of contribution = 2:3   Net profit =     1. Meshack share =   Kelvin share = | M1  A1  M1  A1  M1  A1  M1  A1  M1  A1 | |  |
|  |  | 10 | |  |
|  | a) Area of hemispherical part  = 1/2 x 4r2  = 2 x 22/7 x 35 x 35  = 7700cm3    b) Slant height for original cone  l = 35  *l* - 60 1  L = 100  surface area RL = rl  = 22/7 x 35 x 100 - 22/7 x 14 x 40  = 11000 - 1760  = 9240cm2  c) Total surface area  7700 + 9240 + 22/7 x 142  = 7700 + 9240 + 616  = 17556cm2 | M1M1  A1  M1  M1  M1  A1  M1  M1  A1 | |  |
|  |  | 10 | |  |
|  | 1. A1(-3, 1) B1(-5, 5) C1(-3, 4) D1(-1,4) 2. A11 (-3, -4) B11(-5, -5) C11(-3, -4) D11 (-1, -4) | | | |
|  |  | 10 |  | |
|  | Maths%20ms%20pp1%2024%20(a) | B1  B1  B1  B1  B1  M1  A1  B1  B1  M1  A1 | Position of B & C  measurements  relative positions of A, B & C | |
|  |  | 10 |  | |
|  | 1. Line BC = 2. Line BC =   Dropping perpendicular  M labeled   1. CM = 6.1 | B1  B1  B1  B1  B1  B1  B1  B1  M1  A1 | Line AB drawn  Angle ABC and ABC drawn  Triangle ABC  Dropping perpendicular  M labeled | |
|  |  | 10 |  | |
|  | 1. Air ticket =   Remainder =  Meals =  Air ticket + meals =  Remainder =  Accomodation =  Air ticket + meals + Accomodation  =  Remaining =  Gift =  Air ticket + meals + Accomodation+Gift  =  Remainder = Therefore  Total April salary =   1. Meals 2. Accommodation 3. Gift | M1  M1  M1  A1  M1  A1  M1  A1  M1  A1 |  | |
|  |  | 10 |  | |
|  |  | M1  M1  A1  M1  M1  A1  M1  A1  M1  A1 |  | |
|  |  | 10 |  | |