**MARK SCHEME FOR ADDITIONAL MATHS PAPER 1**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No** |  | **Mark Scheme** | **Mark** | **Grand Total** |
| 1 | ( a )  ( b ) | 15  7 | 1  1 | 2 |
| 2 |  | 12 | 2  B1 | 2 |
| 3 |  | ( both )  or | 3  B2  B1 | 3 |
| 4 |  | , ( both ) | 3  B2  B1 | 3 |
| 5 | ( a )  ( b ) | *a* > 0  *p* = -2  *h* = 4 | 1  1  1 | 3 |
| 6 |  |  | 3  B2  B1 | 3 |
| **No** |  | **Mark Scheme** | **Mark** | **Grand Total** |
| 7 |  |  | 3  B2  B1 | 3 |
| 8 |  |  | 3  B2  B1 | 3 |
| 9 |  | *n* = 9 | 4  B3  B2  B1 | 4 |
| 10 |  | *x* = 8 | 3  B2  B1 | 3 |
| 11 | ( a)  ( b ) | or equivalent | 2  B1  2  B1 | 4 |
| **No** |  | **Mark Scheme** | **Mark** | **Grand Total** |
| 12 |  |  | 4  B3  B2  B1 | 4 |
| 13 | ( a )  ( b ) | ( 3 , 8 )  *y = 4 x – 4* or equivalent  *y – 8 = 4 (x -3 )*  Gradient = 4 | 1  3  B2  B1 | 4 |
| 14 |  | *x2 + y2 + 2x – 12 y + 32 = 0*  *y2 – 12 y + 35 = - x2 – 2x + 3* | 3  B2  B1 | 3 |
| 15 | ( a )  ( b ) | 8.944 unit or 4 | 1  2  B1 | 3 |
| 16 | ( a )  ( b ) | *k= -5*  *or 3=*  *1 : 2* | 2  B1  1 | 3 |
| 17 |  | 28.63  13.63 + 15  2(10)sin ( 85.93°/2) or 102 + 102 -2(10)(10) cos 85.93° or 1.5(10) or 1.5 x | 3  B2  B1 | 3 |
| 18 | ( a )  ( b ) | 2( | 1  2  B1 | 3 |
| **No** |  | **Mark Scheme** | **Mark** | **Grand Total** |
| 19 |  | a = 8 and b = -3 ( both )  and  or | 4  B3  B2  B1 | 4 |
| 20 |  | 2  or | 2  B1 | 2 |
| 21 |  | 6, 6, 7, 8, 13 or 6, 6, 7, 9, 12 or 6, 6, 7, 10, 11  6, 6, 7, x, y  Answer shows mod = 6 and median = 7 and *x+y* = 21  Answer shows mod = 6 or median = 7 or Σ *x* = 40 | 3  B2  B1 | 3 |
| 22 | ( a )  ( b ) | -32 cms -1  ( 5 – 4 ) (4) – 4 (5) ( 1 ) X 2  ( 5 – 4 )2  ( u – 4 ) (4) – 4 (u) ( 1 )  ( u – 4 )2 | 1  3  B2  B1 | 4 |
| 23 | ( a )  ( b ) | 0.44  0.92  (0.8)(0.4) + ( 0.6)(0.2) + (0.8)(0.6) | 1  2  B1 | 3 |
| 24 | ( a )  ( b ) | 239500800  12P10  7 257 600  10P10 x 2 | 2  B1  2  B1 | 4 |
| 25 | ( a )  ( b ) | 0.35  1 – 0.1 – 0.3 – 0.25  0.9  0.3 + 0.35+ 0.25 or 1 – 0.1 | 2  B1  2  B1 | 4 |