|  |  |  |  |
| --- | --- | --- | --- |
| 1 | −  -2 | M1  M1  A1  **3** | Numerator  Denominator |
| 2 | 1. M=-2 2. tan-1 (2)   =63.43o | B1  M1  A1  **3** |  |
| 3 | EB=x cm  5=  X=2  EC=10cm | M1  A1  B1  **3** |  |
| 4 | 12c+8t=940  8c+10t=860  T=sh 50  C=sh 45  6(45)+12 (50)  =sh 870 | M1  A1  B1  **3** | For both equation  For both |
| 5 | 3-3mx 3-4= 310  -3m-4=10 | M1  M1  A1  **3** | Expressing all to base 3 |
| 6 | ¼  =1124.58 dollars  =1125 dollars | M1  M1  M1  A1  **4** |  |
| 7 | 1. Sin-1   = 65.85o  180-65.85  =114.15o   1. a2=252+322-2x25x32x cos114.15o   =625+1024-(1600(-0.4.91)  a=  =47.995  =48cm | M1  A1  M1  A1  **4** | Application of cosine rule |
| 8 | LCM=12  2+1=13 staircases | B1  B1  **2** |  |
| 9 |  | M1  M1  M1  A1  **4** | Simplified numerator and denominator (both)  Factorization of both |
| 10 | (2, -3) 4 B(-10, 9) p  A  += | M1  M1  A1  **3** |  |
| 11 |  | M1  M1  A1  **3** | * substitution |
| 12 | (7-2)180o=900o  40+2x+x+2x+25+155+140=900o  360+5x=900  5x=540  X=108o | B1  M1  A1  **3** |  |
| 13 | h=2.597cm  =7.701 hrs | M1  M1  A1  **3** | =77 litres |
| 14 | 1 h= 60km  Relative speed=x-60km/h  x-60=20  x=80km/h | B1  M1  A1  **3** |  |
| 15 | A: J: M=2:6:9  =sh. 11,520  A  5  B  5  D  5  A  6  V  C  5  6  B  6  A  5 | B1  M1  A1  **3** | * Ratio of the three |
| 16 |  | B1  B1  B1  **3** | * Net drawn accurately * Labeling * Path shown |
| 17 | |  |  |  |  |  | | --- | --- | --- | --- | --- | | marks | 30-34 | 50-59 | 60-79 | 80-89 | | F | 2 | 10 | 40 | 5 |   b) x=32 42 54.5 69.5 84.5  fx=64 126 545 2780 422.5  =65.625   1. CF =2 5 15 55 60   59.5+  =67 | B1  B2  M1  M1  M1  A1  B1  M1  A1  **10** | * Classes * All frequencies * B1 at least 3 frequencies * Mid points * fx   Cumulative frequencies  Or equivalent |
| 18 | 3x2+82x-600=0  (x-6)(3x+100)=0  X=6   1. Time to walk   = | B1  B1  M1  M1  M1  A1  B1  M1  M1  A1  **10** |  |
| 19 | 1. V=   18.5=  K=37  V=  =17.76   1. R1=1.15R   H1=0.88H  V1=  V1=0.665v x 100%  =66.5%  Decreased by 33.5% | M1  A1  B1  M1  A1  B1  M1  M1  M1  A1  **10** | For both R1 and H1  Difference |
| 20 | 1. Quadrilateral drawn   C:\Documents and Settings\DIRECTOR OF STUDIES\Desktop\New Folder\img011.jpg   1. Centre (-1, 2)   Angle +90o   1. B`(0,6)   C`(-2,6)   1. B``(-1, -3)   C``(-3,-3) | B1  B1  B1  B1  B1  B1  B1  B1  B1  B1  **10** | * ABCD * Bisector * Centre * Angle * Point B` * Point C` * Quadrilateral A`B`C`D` drawn * Reflection in line y=-x * B`` coordinates * C`` coordinates |
| 21 | 1. Sin 36o=   R=  =12Cm   1. ()+()   (90.51-68.48)+(78.57-50)  22.08+28.57  =50.6cm2 | M1  A1  M1  A1  M1  M1  M1  M1  M1  A1  **10** |  |
| 22 | 1. V=   M=523.81 x 2.4  =1257.144g  =1.257kg  h=  =2.604  =6.667cm | M1A1  M1  A1  M1  M1  A1  M1  M1  A1  **10** |  |
| 23 | A  N  D  N  B  4cm  N  6cm  C  N  5cm  b)i 7.6 x 10=76  325o  ii) 4.6 x 10=46  200o  iii) 9.8 x 10= 98  296o | B1  B1  B1  B1  B1  B1  B1  B1  B1  B1  **10** | * Location of A * Location of C * Location of D * Diagram |
| 24 | 1. 75x + 60y=70(x+y)   5x=10y  X:y=2:1   1. i)   Time till=  ii) 1 hr - = full  rem=  iii) empty = | M1  M1  A1  M1  A1  M1  M1A1  M1  A1  **10** | Or equivalent |