## PERFECT STEPS PUBLISHERS

END TERM EXAMS 2015

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**MARKING SCHEME- FORM 3**

**PAPER 1(121/I)**

|  |  |  |  |
| --- | --- | --- | --- |
| **NO** | **WORKING** | **MARKS** | **COMMENT** |
| **1** |  | M1  M1  A1 |  |
|  |  | **3** |  |
| **2** |  | M1  M1  A1 |  |
|  |  | **3** |  |
| **3** | 3 : 7  6 : 5  18 : 42 : 35  David  = 8, 400/= | M1  M1  A1 |  |
|  |  | **3** |  |
| **4** | y = 2x   |  |  |  |  | | --- | --- | --- | --- | | X | 0 | 1 | 3 | | y | 0 | 2 | 6 |       Reflection in the x-axis | M1  M1  A1 |  |
|  |  | **3** |  |
| **5** |  |  |  |
|  |  | **3** |  |
| **6** | **mat4** | B1  B1  B­1 | (for constructing an angle of 750)  (bisecting angle C and measuring the height) |
|  |  | **4** |  |
| **7** | Sh.76.45 = 1 US dollar  (commision)    dollars  dollars | M1  M1  A1 |  |
|  |  | **3** |  |
| **8** |  | M1  M1  A1 | n=number of sides |
|  |  | **3** |  |
| **9** |  | M1  M1  A1 |  |
|  |  | **3** |  |
| **10** |  | M1  M1  A1 |  |
|  |  | 3 |  |
| **11** | Making P the subject | M1  M1  A1 | For expansion  Collecting the like terms |
|  |  | 3 |  |
| **12** | **maths pp1 ms q12** | B1  B2  B1 | ✓scale used  For locating the towns  All the northern parts should be parallel |
|  |  | 4 |  |
| **13** | (a)The net  4 cm  3 cm  3 cm  4 cm  B  C  D  A  V  V  V  V  (b)  Surface area  1.5  4    Area of the square base    Area of the four triangles    Total area | B1  B1  M1  A1 | ✓dimensions or equal angles and length  ✓labelling |
|  |  | 4 |  |
| **14** | Eqaution of L1 in    Equation of L2 | M1  M1  A1 | For correct equations in  y=mx+c  For showing that (m1×m2=-1) |
|  |  | 3 |  |
| **15** | D = S × T    1 litre = 40 km  ? = 320 km    spent | M1  M1  A1 |  |
|  |  | 3 |  |
| **16** | Ignore term (-12) | M1  M1  A1 |  |
|  |  | 3 |  |
| **17** | (a)  In      of the work is done  (b)  1hr = of the work is done  1 hr 10 min hrs = ?  of the work  Fraction of the job to be done by A after B broke  down is  of the work  (c)  of the work is done in 4hrs by A.  1(whole ) work = ?  hours  In 4 hrs, A does of the work,  in , it does  in 2½ hrs, A does ⅓ of the work. then B does ⅔ of  the work.  B does ⅔ of the work in 2½ hours.  1(whole work) = ? | M1  A1  M1  M1  M1  A1  M1  A1  M1  A1 |  |
|  |  | 10 |  |
| **18** | (a)  Sum of arithmetic progression          Last five terms  term is a + 40d  term is a + 39d  term is a + 38d  term is a + 37d  term is a + 36d  total  Solving (i) and (ii) simultenously;          (b)  Last term is a + 40d    (c) | M1  M1  M1  A1  A1  M1  A1  M1  M1  A1 | Formation of each equation  Solving two equations simultaneously  For common difference  For the first term |
|  |  | 10 |  |
| **19** | **maths pp1 ms q19**  (b)  (i)  (ii)      (c)  70 | S1  B1  B1  B1  B1  B1  B1  B1  B1  B1 | ✓scale used  ✓location of P  ✓location of A  ✓location of B  ✓dist in cm  ✓actual dist  ✓dist in cm  ✓actual dist  ✓location of R  ✓angle |
|  |  | 10 |  |
| **20** | (a) (i)    (ii)    ✓    ✓  (iii)    ✓    ✓  (b)  mat5 | B2  M1  A1  M1  A1 |  |
|  | 150  450  650 | 10 |  |
| **21** | h=22  (a)        Maximum speed  = 79.2km/h  (b)  Acceleration    (c)    = 550  (d)  Time for half of journey:    t = 162.5  Total time = 150 + 162.5  = 312.5 | M1  A1  B1  M1  A1  M1  A1  M1  A1  B1 | Or equivalent  Or 0.1467ms--2 |
|  |  | 10 |  |
| **22** | (a) see graph     |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | x | -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | x2 | 16 | 9 | 4 | 1 | 0 | 1 | 4 | 9 | 16 | 25 | 36 | 49 | | -5x | 20 | 15 | 10 | 5 | 0 | -5 | -10 | -15 | -20 | -25 | -30 | -35 | | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | | y | 48 | 36 | 26 | 18 | 12 | 8 | 6 | 6 | 8 | 12 | 18 | 26 |   (b) (i)         |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | x | 0 | 2 | 3 | -3 | -1 | -2 | | y | 15 | 9 | 6 | 24 | 19 | 21 |   x =3 or x = -0.8  (ii)      Solution:  or | B2  M1  A1  M1  B1 | Filling correctly for six values✓  ✓values for x |
|  | | | |
|  |  | 10 |  |
| **23** | (a)  ,angle subtended by chord or arc DC  and the circumference  (b)  opposite angles of a cyclic  Quadrilateral add to 1800  = 440  (c)  subtended bu chord DA/arc DA at  the circle  (d)  Opposite angles of a cyclic  quadrilateral add up to 1800  = 580  (e)  angle of a triangle add to 1800  = 1000 | B1  B1  B1  B1  B1  B1  B1  B1  B1  B1 | For angle  For reason |
|  |  | 10 |  |
| **24** | (a)      cm  (b)  Let  be        (c)  Let  be    (d)  Area of ΔACD | M1  A1  M1  M1  A1  M1  M1  A1  M1  A1 | Accept 47.940,47.960 depending on the method  22.890 is possible. |
|  |  | 10 |  |