**Practice Paper 1 Marking scheme**

| Q | **Working** | **Answer** | **Mark** | **Notes** |
| --- | --- | --- | --- | --- |
| 1 | (a) |  | 38,45 | 2 | B2 | B1 for 38 shown as sixth termB1 for 45 shown as seventh term ft from their "38" + 7 |
|  | (b) |  | added 7 | 1 | B1 | for correct explanationE.g. +7, 7 more, jumped forward by 7 oe **or** 7*n* $–$ 4 |
|  | (c) | 3 + 17 × 7 or 7 × 18 $–$ 4 or 7*n* $–$ 4**or**3, 10, 17, 24, 31, 38, 45, 52, 59, 66, 73, 80, 87, 94, 101, 108, 115, 122**or** E.g. 45 + 11 × 7 |  |  | M1 | NB: If a list is given then must show a clear intention of adding 7 with at least 4 terms after 45 (condone 1 arithmetic error)E.g. 45, 52, 59, 66, 73E.g. 38, 45, 52, 59, 66, 73 |
|  |  |  | 122 | 2 | A1 | SC : B1 for answer of 115 or 129  |
|  | (d) |  | 234 | 1 | B1 |  |
|  |  |  |  |  |  | **Total 6 marks** |

| 4 | (a) |  | Yellowknife | 1 | B1 |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | (b) | 25 $–$ $–$ 5 **or** 25 + 5 **or** $–$5 $–$ 25 |  |  | M1 | working may be seen on a number line |
|  |  |  | 30 | 2 | A1 | accept $–$30 |
|  | (c) | $–$ 11 $–$ 6 | $–$ |  | M1 | or for an answer of 17working may be seen on a number line |
|  |  |  | 17 | 2 | A1 |  |
|  |  |  |  |  |  | **Total 5 marks** |

| 6 | (a) |  | 2 triangles shaded | 1 | B1 |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | (b) |  | 0.4 | 1 | B1 |
|  | (c) | 6 × 3.2 $–$ 3 × $–$4 oe |  |  | M1 |  for a correct substitution **or** for 19.2 and (−)12 **or**an answer of 7.2 |
|  |  |  | 31.2 | 2 | A1 |  |
|  |  |  |  |  |  | **Total 4 marks** |

| 7 | i |  | 30 | 1 | B1 |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | ii |  | 32 | 1 | B1 |  |
|  | iii |  | 31 or 37 | 1 | B1 | for 31 **or** 37 **or** both |
|  |  |  |  |  |  | **Total 3 marks** |

| 8 | (a)(i) |  | radius | 1 | B1 |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | (a)(ii) |  | 28 | 1 | B1 | accept 26 30 |
|  | (b)(i) |  | 30 | 1 | B1 |  |
|  | (b)(ii) |  | angles on a straight line add to 180$°$ | 1 | B1 | dep on B1 in (bi)**or** angles at a point add to 360o (and vertically opposite angles are equal) |
|  | (c)(i) |  | 150 | 1 | B1 |  |
|  | (c)(ii) |  | corresponding angles are equal | 1 | B1 | dep on B1 in (ci) |
|  |  |  |  |  |  | **Total 6 marks** |

| 9 | (a) |  | 3*x*² | 1 | B1 |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | (b) |  |  |  | M1 | for 2*e* or 9*f* |
|  |  |  | 2$–2$*e* + 9*f* oe | 2 | A1 |  |
|  | (c) |  | 8*ab* | 1 | B1 |  |
|  | (d) |  | 48 | 1 | B1 |  |
|  | (e) | E.g.5*y* = 14 $–$ 2 or $–$5*y* = 2 $–$ 14 or   |  |  | M1 | for a correct first step |
|  |  |  |  oe | 2 | A1 | for oe E.g. or 2.4 |
|  |  |  |  |  |  | **Total 7 marks** |

| 11 | (a) |  | 5(2*a* + 5) | 1 | B1 |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | (b) |  | *w*(7*w* 4) | 1 | B1 |  |
|  | (c) |  |  |  | M1 | for *p*³ or (−)5*p*² |
|  |  |  | *p*³ 5*p*² | 2 | A1 |  |
|  | (d) | *x*² + 7*x* − 3*x* − 21 |  |  | M1 | for 3 correct terms **or** 4 correct terms ignoring signs **or** *x*² + 4*x* + c **or** .... + 4*x* 21 |
|  |  |  | *x*² + 4*x* 21 | 2 | A1 |  |
|  |  |  |  |  |  | **Total 6 marks** |

| 12 | (a) |  | Vertices at (5, 3) (5, 9) (3, 9) (3, 5) (1, 5) (1, 3)  | 2 | B2 | If not B2 then awardB1 for shape of correct size and orientation in incorrect position **or** 4 out of 6 vertices correct |
| --- | --- | --- | --- | --- | --- | --- |
|  | (b) |  | Vertices at (7, 1) (7, 3) (4, 3) (4,2) (6, 2) (6,1 ) | 2 | B2 | If not B2 then awardB1 for correct orientation but incorrect position orB1 for rotation 90$°$clockwise about (7, 3) |
|  |  |  |  |  |  | **Total 4 marks** |

| 14 | (a) |  | 3 < *L* ≤ 4 | 1 | B1 | Accept 3 4 |
| --- | --- | --- | --- | --- | --- | --- |
|  | (b) | Eg 0.5 4 + 1.5×5 + 2.5×11 + 3.5×14 + 4.5×6 or 2 + 7.5 + 27.5 + 49 + 27 or 113 |  |  | M2 | *f* × *d* for at least 4 products with correct mid- interval values **and** intention to add.If not M2 then award M1 for *d* used consistently for at least 4 products within interval (including end points) **and** intention to add **or** for at least 4 correct products with correct mid-interval values with no intention to add |
|  |  | (0.5 × 4 + 1.5 × 5 + 2.5 × 11 + 3.5 × 14 + 4.5 × 6) ÷ 40or 113 ÷ 40 |  |  | M1 | dep on M1 (ft their products)NB: accept their 40 if addition of frequencies is shown |
|  |  |  | 2.8 | 4 | A1 | Allow 2.82, 2.83 or 2.825 |
|  |  |  |  |  |  | **Total 5 marks** |

| 19 |  | cos22 = $\frac{14.9}{AC}$or oroe **or** |  |  | M1 |  | M1 for *BC* = 14.9 × tan22 oe (= 6.019 – 6.02)**AND** (*AC*2 = ) 14.92 + 6.019…2 |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | (*AC* = ) or( × sin 90) |  |  | M1 |  | M1 for (*AC* ) =   |
|  |  |  | 16.1 | 3 | A1 | Accept 16.07 − 16.1 |
|  |  |  |  |  |  | **Total 3 marks** |

| 20 | (a) | 668.8 640 or 28.8 |  |  | M1 |  | M2 for  **or**  1.045 **or** 104.5  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | "28.8" ÷ 640 (×100) or 0.045 |  |  | M1 | dep |
|  |  |  | 4.5 | 3 | A1 |  |  |
|  | (b) | oe or oe  |  |  | M2 | for a complete methodIf not M2 then award M1 for (=7.04) **or** 0.95*x* = 668.8 oe |
|  |  |  | 704 | 3 | A1 |  |
|  |  |  |  |  |  | **Total 6 marks** |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Question** | **Working** | **Answer** | **Mark** | **AO** | **Notes** |
| **23** | **a** |  | 140 000 | 1 | AO1 | B1 |  |
|  | **b** |  | Mars | 1 | AO1 | B1 |  |
|  | **c** | 1.2 × 105 – 5 × 104 **or** |  |  | AO1 | M1 |  |
|  |  | 120 000 – 50 000 **or** 70 000 oe |  |  |  |  |  |
|  |  |  | 7 × 104 | 2 |  | A1 |  |

| **24** |  | 7500 × 0.04 or 300 or 7500 × 1.04 or 7800 or 7500 × $1.04^{n}$ (*n* > 1 )Eg 7500 +⨯7500 + ⨯(7500 + “300”) +⨯(7500 + “300” + “312”) or7500 + “300” + “312” + “324.48” | 8436.48 | 3 | M1M1  | For interest for first year or for 7500 × 0.04 × 3 oe or 900 or for 7500 + 7500 × 0.04 × 3 oe or an answer of 8400For a complete method | M2 for 7500⨯ 1.043 oe |
| --- | --- | --- | --- | --- | --- | --- | --- |
| A1 | Accept answers in the range 8436 – 8437NB: Answer in the range 936 -937 gets M2A0 |
|  |  |  |  |  |  | **Total 3 marks** |