**Lower 5 Set 1 Summer Test Marking Scheme Paper 1**

| 1 |  |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| *x* | −2 | −1 | 0 | 1 | 2 | 3 | 4 |
| *y* | 10 | 8 | 6 | 4 | 2 | 0 | −2 |

 | *y* = 6 – 2*x* drawn from *x* = −2 to*x* = 4 | 4 | B4 | For a correct line between *x* = −2 and *x* = 4 |
|  |  |  |  |  | B3 | For a correct straight line segment through at least 3 of (−2, 10) (−1, 8) (0, 6) (1, 4) (2, 2) (3, 0) (4,−2)**OR** for all of (−2, 10) (−1, 8) (0, 6) (1, 4) (2, 2) (3, 0) (4, −2)plotted but not joined |
|  |  |  |  |  | B2 | For at least 2 correct points plotted  |
|  |  |  |  |  | B1 | For at least 2 correct points stated (may be in a table) **OR**for a line drawn with a negative gradient through (0, 6) **OR** a line with gradient −2 |
|  |  |  |  |  |  | **Total 4 marks** |

| 2 | a | 224 ÷ 8 oe |  | 2 | M1 |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  |  | 28 |  | A1 |  |
|  | b | 523 – 411 (=112) or or (=127.3...)  |  | 3 | M1 |  |  |
|  |  |  or 100×“1.273” – 100 or “127.3” – 100 |  |  | M1 | dep |  |
|  |  |  | 27.3 |  | A1 | 27.25 – 27.3 |
|  |  |  |  |  |  | **Total 5 marks** |

| 3 |  |  | *y* = $–$2*x* + 1 | 2 | M1A1  | For *y* = $–$2*x* + *c* (*c* $\ne $ 1) or*y* = *mx* + 1or for a correct method to find the gradientor *m* = −2 and *c* = 1 statedor −2*x* + 1 or *L* = $–$2*x* + 1oe |
| --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  | **Total 2 marks** |

| 4 | a | e.g.12*x* = 36 or 24*y* = −60 |  | 3 | M1 | for addition of given equations **or** a complete method to eliminate *y* or *x* (condone one arithmetic error) |
| --- | --- | --- | --- | --- | --- | --- |
|  |  | e.g. 7 ”3”+ 2y = 16 or7*x* + 2 ×−2.5 = 16 |  |  | M1  | (dep) for method to find second variable |
|  |  |  | *x =* 3 oe, *y* = −2.5 |  | A1  | dep on M1 for both values correct. NB. Candidates showing no working score zero |
|  | b | *k*2 + 9*k* – 5*k* − 45 |  | 2 | M1 | for 3 terms correct **or** all 4 terms correct ignoring signs **or** *y*2 + 4*k* +….. **or**… + 4*k* − 45 |
|  |  |  | *k*2 + 4*k* − 45 |  | A1 |  |
|  |  |  |  |  |  | **Total 5 marks** |

| 5 | (a) |  | Correct probabilities | 2 | B1B1 | For 0.4 on LH branchFor 0.3, 0.7 and 0.3 on RH branches |
| --- | --- | --- | --- | --- | --- | --- |
|  | (b) |  | 0.42 | 2 | M1A1 | For 0.6 × 0.7oe |
|  | (c) | 0.6 × "0.3" × "0.8" + "0.4" × 0.7 × "0.8" + "0.4" × "0.3" × 0.2 (= 0.144 + 0.224 + 0.024) oe  |  | 3 | M2ft | For a complete methodM1ft for 0.6 × "0.3" × "0.8" or 0.144 or "0.4" × 0.7 × "0.8" or 0.224 or "0.4" × "0.3" × 0.2 or 0.024  |
|  |  |  | 0.392 |  | A1cao |  oe |
|  |  | Alternative method |  |  |  |  |
|  |  | 1 – [(0.6 × 0.7 × 0.2) + (0.4 × 0.3 × 0.8) + (0.6 × 0.7 × 0.8) + (0.6 × 0.3 × 0.2) + (0.4 × 0.7 × 0.2)] |  |  | M2ft | For complete methodM1ft for 1 – (at least 2 correct products). |
|  |  |  | 0.392 |  | A1cao |  |
|  |  |  |  |  |  | **Total 7 marks** |

| 6 | (a) | e.g. or 1.6 or or 0.625 or e.g. 4 × or 4 ÷  oe ore.g. or oe |  | 2 | M1 | For correct scale factor or correct expression for *AZ* orfor a correct equation involving *AZ*oe |
| --- | --- | --- | --- | --- | --- | --- |
|  |  |  | 6.4 |  | A1 | oe e.g.  |
|  | (b) | Eg  or  or oe | 3.75 | 2 | M1A1  | Correct expression for *BC*oe |
|  | (c) |  |  | 3 | M2 | For a fully correct method or M1 for or 20.5 |
|  |  |  | 31.98 |  | A1 | Accept 32.0 or 32 |
|  |  |  |  |  |  | **Total 7 marks** |

| 7 | (a) |  | (*y* $–$ 8)(*y* + 6) | 2 | M1A1 | For (*y* ± 8)(*y* ± 6)cao |
| --- | --- | --- | --- | --- | --- | --- |
|  | (b) | 4 = 5(*e* $–$ 3) or 4 = 5*e* $–$ 15 or  = *e* $–$ 3 |  |  | M1 |  |
|  |  |  |  | 2 | A1 | 3$\frac{4}{5}$ or 3.8 |
|  | (c) | or  |  | 3 | M1 | oe e.g.  |
|  |  | oe |  |  | M1 |  |
|  |  |  |  |  | A1 | oe e.g.  |
|  |  |  |  |  |  | **Total 7 marks** |

| 8 | (a) |   or 40  |  | 2 | M1 |  Or bar of height 40 wrong width |
| --- | --- | --- | --- | --- | --- | --- |
|  |  |  | Correct bar |  | A1 |  |
|  | (b) |  | 5 | 1 | B1 |  |
|  |  |  |  |  |  | **Total 3 marks** |

| 9 | (a) | 0.5 × (360 $–$ 260) or 0.5 × 100  | 50 |  2 | M1A1 | For a complete method |
| --- | --- | --- | --- | --- | --- | --- |
|  | (b) | e.g. 360 $–$ (“50” + 260 + 30) (= 20), 90 $–$ "20"or  |  | 2 | M1ft | For a complete method. |
|  |  |  | 70 |  | A1 |  |
|  |  |  |  |  |  | **Total 4 marks** |

| 10 | (a) |  | $–$3.4 | 2 | M1A1 | Line *y* = $–$5 drawn or clear attempt to take reading at y = $–$5Accept $–$3.35 to $–$3.45 inclusive |
| --- | --- | --- | --- | --- | --- | --- |
|  | (b) |  |  | 3 | M2 | *y* = $–$ 5*x* drawn.M1 for *x*³ $–$ 0.2*x*² $–$ 9*x* + 7 = $–$5*x* or *y* = $–$5*x* oe |
|  |  |  | $–$2.5 |  | A1 | dep on at least M1 (−2.45 - −2.55) |
|  |  |  |  |  |  | **Total 5 marks** |

| 11 | (a) | 6$\sqrt{c}$ $–$ 9 +2*c* $–$ 3$\sqrt{c}$ or 3$\sqrt{c}$ $–$ 9 +2*c*  |  | 3 | M1 | Accept $\sqrt{c}\sqrt{c}$ or $(\sqrt{c} )^{2}$ instead of *c* |
| --- | --- | --- | --- | --- | --- | --- |
|  |  |  | *c* = 5*k* = 3 |  | A1B1 |  |
|  | (b) |  or  |  | 3 | M1 |  |
|  |  |  |  |  | M1 |  |
|  |  |  |  |  | A1 | gains M2 only |
|  |  |  |  |  |  | **Total 6 marks** |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Question** | **Working** | **Answer** | **Mark** | **AO** | **Notes** |
| **12** |  | *a* + 3*d* = 17 or *a* + 9*d* = 35 or |  |  | AO1 | M1 |  | M1 for 17 = 4*p* + *q* **and** 35 = 10*p* + *q* |
|  |  | 35 – 17 = 6*d* |  |  |  | A1 |  | *p* = 3 and *q* = 5 |
|  |  | *d* = 3 |  |  |  | A1 | ft from *d* = 3 | *u*1 = 8 and *u*50 = 155 |
|  |  | *a = 8* |  |  |  | M1 |  |  × 50(8 + 155) |
|  |  |  (2 × '8' + (50 − 1) '3') oe | 4075 | 5 |  | A1 |  |