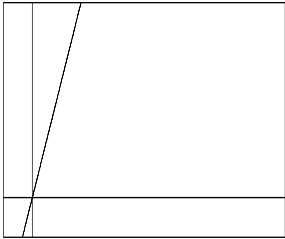
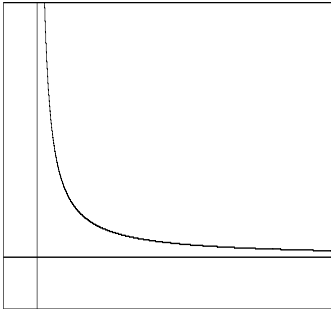


GCSE 2 Exemplar Paper 1: Answers

| Question | Answer | Marks |
|------------------|---|-------|
| Section A | | |
| 1. | 240 | 2 |
| 2. | $\frac{3}{2} \times \frac{4}{3} = 2$ | 3 |
| 3. | 1, 108, 2, 54, 3, 36, 4, 27, 6, 18, 9, 12 | 3 |
| 4. (a) | -5 | 1 |
| (b) | 3 | 1 |
| (c) | -2 | 2 |
| 5. (a) | 8 | 1 |
| (b) | $\frac{1}{9}$ | 1 |
| 6. | $9x - 2$ | 2 |
| 7. | $6(x - 2)$ | 1 |
| 8. | $3n - 1$ | 2 |
| 9. | $\binom{7}{2}$ | 2 |
| 10. (a) | $l = 8$ | 1 |
| (b) | $A = 28.1^\circ$ | 2 |
| 11. | Expression; formula; identity | 3 |
| 12. (a) | $a = 81^\circ$ Angle sum of a triangle | 2 |
| (b) | $b = 81^\circ$ Alternate angles | 2 |
| 13. | 27 girls and 23 boys | 4 |

| | | | |
|------------------|-----|---|---|
| 14. | (a) | The peak in July 2002 is higher than those in July 2001 and July 2003 | 1 |
| | (b) | There is an overall upward trend | 1 |
| | (c) | 3.8 to 4.3 million litres | 1 |
| Section B | | | |
| 15. | (a) | Reflection in the y -axis | 1 |
| | (b) | Reflection in the x -axis | 1 |
| | (c) | Rotation about the origin through 180° | 3 |
| | (d) | $p = 4, q = -12$ | 4 |
| 17. | (a) | $P = kQ$ | 1 |
| | (b) | $k = 2.5$ | 1 |
| | (c) | $P = 17.5$ | 1 |
| | (d) | $Q = 4.4$ | 1 |
| | (e) | Q is inversely proportional to R | 1 |
| | (f) | $c = 30$ | 1 |
| | (g) | $Q = 5$ | 1 |
| | (h) | $R = 2$ | 1 |
| | (i) |  | 1 |
| | (j) |  | 2 |

| | | | | | | | | | | | | |
|-----|----|------------------------------------|----|--------|----|--------|---|-------|---|-------|---|---|
| 17. | a | tot | 1 | 2 | 2 | 3 | 3 | 3 | | 4 | | |
| | | 1 | 2 | 3 | 3 | 4 | 4 | 4 | | | | |
| | | 3 | 4 | 5 | 5 | 6 | 6 | 6 | | | | |
| | | 5 | 6 | 7 | 7 | 8 | 8 | 8 | | | | |
| 7 | 8 | 9 | 9 | 10 | 10 | 10 | | | | | | |
| 9 | 10 | 11 | 11 | 12 | 12 | 12 | | | | | | |
| 11 | 12 | 13 | 13 | 14 | 14 | 14 | | | | | | |
| | | Prob of win = $9/36 = 1/4$ | | | | | | | | | | |
| | b | 96 customers to make a profit | | | | | | | | 3 | | |
| | c | 192 (allow rounding to 190 or 200) | | | | | | | | 2 | | |
| 18. | a | <i>x</i> | -2 | -1.5 | -1 | -0.5 | 0 | 0.5 | 1 | 1.5 | 2 | 3 |
| | | <i>y</i> | -8 | -3.375 | -1 | -0.125 | 0 | 0.125 | 1 | 3.375 | 8 | |
| | b | Graph of $y = x^3$ drawn | | | | | | | | 2 | | |
| | c | Graph of $y = 2x - 1$ drawn | | | | | | | | 2 | | |
| | d | -1.6, 0.6, 1 | | | | | | | | 3 | | |