| Paper: 1MA | Paper: 1MA1/2H |                    |      |   |  |  |  |  |  |  |
|------------|----------------|--------------------|------|---|--|--|--|--|--|--|
| Question   | Working        | Answer             | Mark | Notes   |  |  |  |  |  |  |
| 14         |                | Region R<br>shaded | M1   | for two of the lines $y = 1$ , $x + y = 5$ , $y = 2x$ correctly drawn |  |  |  |  |  |  |
| Q1         |                |                    | M1   | for three lines correctly drawn                                       |  |  |  |  |  |  |
|            |                |                    | A1   | for fully correct region indicated with all lines correct             |  |  |  |  |  |  |
|            |                |                    |      |   |  |  |  |  |  |  |

| Paper 1MA1: 3H |         |  |      |  |  |  |  |  |
|----------------|---------|--|------|--|--|--|--|--|
| Question       | Working | Answer                                   | Mark | Notes  |  |  |  |  |
| Q2             |         | $y \ge -2, y \ge x$ and $y \le 0.5x + 1$ | M1   | $y = -2$ indicated; accept any inequality for "=" $y = x$ oe indicated; accept any inequality for "=" $y = 0.5x + 1$ oe indicated; accept any inequality for "=" $y \ge -2$ , $y \ge x$ and $y \le 0.5x + 1$ |  |  |  |  |

| Paper: 1MA1 | /2H    |      |   |  |
|-------------|--------|------|---|--|
| Question    | Answer | Mark | Mark scheme   | Additional guidance                                  |
| 1 (a)       | n >2   | M1   | for a method to isolate terms in $n$ in any inequality or equation eg $14n - 11n > 6$ or $n = 2$                            | Ignore incorrect inequality sign and accept "=" sign |
|             |        | A1   | cao   |  |
| (b)         | 0      | M1   | for $-2 - 3 < x \le 4 - 3 \ (-5 < x \le 1)$   | A circle around -5 and 1 implies M1                  |
| Q3          | -5 1   | M1   | for drawing a line from -5 to 1  or (indep) for an open circle at either -2 or -5  or (indep) for a closed circle at 4 or 1 | A line from -5 to 1 implies M2 if no working shown   |
|             |        | A1   | cao   |  |

| Paper: 1MA | Paper: 1MA1/3H           |          |   |  |  |  |  |  |
|------------|--------------------------|----------|---|--|--|--|--|--|
| Question   | Answer                   | Mark     | Mark scheme   | Additional guidance                              |  |  |  |  |
| 13 (a)     | region identified        | M1       | for 2 of lines $x = 2$ , $y = x + 3$ , $2x + 3y = 6$ correctly drawn  | Accept use of full or broken lines for all marks |  |  |  |  |
| Q4         |                          | M1<br>M1 | for all 3 lines $x = 2$ , $y = x + 3$ , $2x + 3y = 6$ correctly drawn for region which satisfies at least 2 of the inequalities $x \le 2$ , $y \le x + 3$ , $2x + 3y \ge 6$ | Award for clear intention, shading not needed.   |  |  |  |  |
|            |                          | A1       | for correct region identified   | Award for clear intention, shading not needed.   |  |  |  |  |
| (b)        | no supported with reason | B1       | for no and reason, eg (2, 4) does satisfy $x + y \le 6$ or (2, 4) lies on the boundary of the region satisfying the equality sign.  |  |  |  |  |  |

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| Paper: 1MA1 | Paper: 1MA1/1H |      |  |   |  |  |  |  |
|-------------|----------------|------|--|---|--|--|--|--|
| Question    | Answer         | Mark | Mark scheme  | Additional guidance                           |  |  |  |  |
| 17          | Region shaded  | M1   | for two of the lines $2y + 4 = x$ , $x = 3$ , $y = 6 - 3x$ correctly drawn | Accept full or broken lines for all marks     |  |  |  |  |
| Q5          |                | M1   | for all three correct lines correctly drawn                                |   |  |  |  |  |
|             |                | A1   | for a fully correct region indicated with all lines correct                | Award for clear intention, shading not needed |  |  |  |  |
|             |                |      |  | Diagram at end of mark scheme                 |  |  |  |  |

| Paper: 1MA1 | Paper: 1MA1/2H |      |  |  |  |  |  |  |
|-------------|----------------|------|--|--|--|--|--|--|
| Question    | Answer         | Mark | Mark scheme  | Additional guidance  |  |  |  |  |
| 1 (a)       | x > -1         | B1   | cao  |  |  |  |  |  |
| (b)         | Diagram drawn  | C2   | for a fully correct diagram,   |  |  |  |  |  |
| Q6          |                |      | eg   |  |  |  |  |  |
|             |                | (C1  | for drawing a line from -3 to 4  or (indep) for an open circle at 4  or (indep) for a closed circle at -3) | Condone arrow heads or line ending to denote the 'end' of the line |  |  |  |  |

| Paper: 1MA                            | Paper: 1MA1/2H           |      |   |  |  |  |  |  |
|---------------------------------------|--------------------------|------|---|--|--|--|--|--|
| Question                              | Answer                   | Mark | Mark scheme   | Additional guidance  |  |  |  |  |
| 16                                    | $y \ge 3x + 6$           | M1   | for $y = 6$ indicated or $x = -3$ indicated                                   | Accept any inequality in place of "=" for all method marks |  |  |  |  |
| <b>Q</b> 7                            | $x \ge -3$               | M1   | for $y = 3x + 6$ oe indicated   | Equations/inequalities may be seen on the diagram          |  |  |  |  |
| \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ | $y \ge -\frac{x}{2} + 1$ | M1   | for $y = -\frac{x}{2} + 1$ oe indicated                                       |  |  |  |  |  |
|                                       | $y \le 6$                | A1   | for $y \ge 3x + 6$ oe, $x \ge -3$ , $y \ge -\frac{x}{2} + 1$ oe and $y \le 6$ |  |  |  |  |  |

| Paper: 1MA1/3H |         |      |  |  |  |  |
|----------------|---------|------|--|--|--|--|
| Question       | Answer  | Mark | Mark scheme  | Additional guidance  |  |  |
| Q8             | 5, 6, 7 | M1   | for identification of possible values of $x$ (4,5,6,7) or of $y$ (5,6,7,8,9) | Could be shown on a number line or using a Venn diagram This mark can be awarded for an answer of 4, 5, 6, 7 |  |  |
|                |         | A1   | cao  | Answers may be given in any order.   |  |  |

| Paper: 1MA1 | Paper: 1MA1/1H |      |   |                           |  |  |  |  |
|-------------|----------------|------|---|---------------------------|--|--|--|--|
| Question    | Answer         | Mark | Mark scheme   | Additional guidance       |  |  |  |  |
| Q9          | x < 5          | M1   | for adding 27 to both sides or dividing throughout by 7 (in an inequality or an equation) as a first step  or showing 5 as the critical value | Can be written as $x = 5$ |  |  |  |  |
|             |                | A1   | cao   |                           |  |  |  |  |