## Multi Mark 2

1. You will be assessed on the quality of your written communication in this question.

Cerys makes hats for a living.



Each hat she makes needs  $0.45\,\mathrm{m}^2$  of fabric, costing £3.40 per  $\mathrm{m}^2$ , and 50 cm of ribbon. Cerys pays herself £12.60 per hour. She can make 3 hats in two hours. There are no other costs or outgoings. Cerys sells each hat for £10.25, which exactly balances the costs and outgoings.

| Calculate how much the ribbon costs per metre.<br>You must show all your working. |  |  |  |  |  |
|---|--|--|--|--|--|
|   |  |  |  |  |  |
|   |  |  |  |  |  |
|   |  |  |  |  |  |
|   |  |  |  |  |  |
|   |  |  |  |  |  |
|   |  |  |  |  |  |
|   |  |  |  |  |  |
|   |  |  |  |  |  |
|   |  |  |  |  |  |
|   |  |  |  |  |  |
|   |  |  |  |  |  |
|   |  |  |  |  |  |
|   |  |  |  |  |  |
|   |  |  |  |  |  |
|   |  |  |  |  |  |
| [9]   |  |  |  |  |  |

2.

| (a) | Write down the <i>n</i> th term of the following sequences. |   |  |
|-----|---|---|--|
|     | (i) 6, 13, 20, 27,  |   |  |
|     |   | *************************************** |  |
|     |   | [2]                                     |  |
|     | (ii) 26, 20, 14, 8,   |   |  |
|     |   |   |  |
|     |   | [2]                                     |  |

| The diagrams she<br>Each pattern has                | ow tile patterns. some shaded tiles and some white tiles.  |         |
|---|--|---------|
|   | Pattern 1  |         |
|   | Pattern 2  |         |
|   | Pattern 3  |         |
| Find the express number of shade Pattern <i>n</i> . | ion for the total number of tiles in Pattern $n$ , the expression for d tiles in Pattern $n$ and the expression for the number of white tile | thes in |
|   |  |         |
|   |  |         |
|   |  |         |
|   |  |         |
|   |  |         |
|   |  | •••••   |
|   |  | [7]     |
|   |  |         |

You will be assessed on the quality of your written communication in this part of the question.