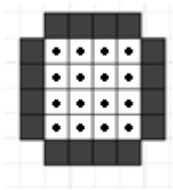
| Question | | | Answer | Marks | Part marks and guidance | |
|---|---|---|---|---|---|---|
| 12 | (a) | |  | **2**<br>**1 AO2.1a**<br>**1 AO2.3b** | **B1** for 4 × 4 dotted squares correct<br>**B1** for 4 blocks of 4 black squares correct | |
| | (b) | | 64 | **2**<br>**1 AO1.3a**<br>**1 AO2.1a** | **M1** for 8 × 8 or $8^2$ or 8 squared | |
| | (c) | | 4*n* | **2**<br>**1 AO1.3a**<br>**1 AO2.3a** | **M1** for 4 8 12 seen | |
| | (d) | | Number of blacks is always even **oe**<br><br>and reason<br><br>Number of dots alternates between odd and even **oe**<br>and reason<br><br>even + even = even<br><br>odd + even = odd | **B1**<br><br>**B1**<br><br>**B1**<br><br>**B1**<br><br>**B1**<br><br>**B1**<br><br>**2 AO2.2**<br>**4 AO2.4b** | <br><br>Accept 4 times table or 4 is even<br><br><br><br>Accept any reason that has explanatory value e.g. $odd^2$ = odd<br><br><br><br>If **0** scored, instead award<br>**B1** shows true for patterns 1, 2 and 3<br>**B1** shows true for at least two more patterns | |