| Question | | | Answer | Marks | AO | Guidance |
|---|---|---|---|---|---|---|
| 9 | (a) | | p($A$) = $\frac{1}{3}$ o.e. | B1 | 1.1 | e.g. $\frac{2}{6}$ etc |
| | | | | [1] | | |
| 9 | (b) | | p($B$) = $\frac{1}{2}$ o.e. | B1 | 1.1 | e.g. $\frac{3}{6}$ etc |
| | | | | [2] | | |
| 9 | (c) | | $\frac{5}{6}$ | B1FT | 1.1 | FT their $\frac{1}{3} + \frac{1}{2}$ provided their probability total $\leq 1$ |
| | | | | [1] | | |
| 9 | (d) | | p(odd, odd) + p(even, even) **soi**<br>**or** 1 - p(odd, even) etc | M1 | 3.1a | Can score this mark for the intention to calculate p(odd, odd) + p(even, even)- may be stated, or partial cases listed, or with a tree diagram with correct pathways or with a statement of 'odd, odd' and 'even, even' and an attempt to add. |
| | | | $\left(\frac{2}{3}\right)^2 + \left(\frac{1}{3}\right)^2$ | A1 | 2.1 | |
| | | | $\frac{5}{9}$ o.e. $\frac{20}{36}$ etc | A1 | 1.1 | allow $0.\dot{5}$ correct to 3 dp or better so 0.555… or 0.555 but not 0.55 however isw once $\frac{5}{9}$ o.e. seen. Condone 0.556 |

| Question | Answer | Marks | AO | Guidance |
|---|---|---|---|---|
| | **Alternative 1**<br>Sample space:<br>(table below)<br><br>$\frac{5}{9}$ o.e. $\frac{20}{36}$ etc | **M1**<br><br>**A1**<br><br>**A1** | **3.1a**<br><br>**2.1**<br><br>**1.1** | Complete sample space diagram with maximum two errors<br><br>Extraction of even outcomes- may circle or underline etc.<br><br>allow $0.\dot{5}$ correct to 3 dp or better so 0.555… or 0.555 but not 0.55 however isw once $\frac{5}{9}$ o.e. seen. Condone 0.556 |
| | **Alternative 2**<br>Listing cases: (1,3) (1, 5) (1, 7) (3,5) (3,7) (4,6) (5,7) x2 and<br>(1, 1) (3, 3) (4, 4) (5, 5) (6, 6) (7, 7)<br><br>A complete list extracted.<br><br>$\frac{5}{9}$ o.e. $\frac{20}{36}$ etc | **M1**<br><br>**A1**<br><br>**A1** | **3.1a**<br><br>**2.1**<br><br>**1.1** | Must make a clear attempt at pairing odd with odd **and** even with even. The list can be incomplete for this mark.<br><br>May be implied by a correct answer.<br><br>allow $0.\dot{5}$ correct to 3 dp or better so 0.555… or 0.555 but not 0.55 however isw once $\frac{5}{9}$ o.e. seen. Condone 0.556 |
| | | **[3]** | | |

| | **1** | **3** | **4** | **5** | **6** | **7** |
|---|---|---|---|---|---|---|
| **1** | 2 | 4 | 5 | 6 | 7 | 8 |
| **3** | 4 | 6 | 7 | 8 | 9 | 10 |
| **4** | 5 | 7 | 8 | 9 | 10 | 11 |
| **5** | 6 | 8 | 9 | 10 | 11 | 12 |
| **6** | 7 | 9 | 10 | 11 | 12 | 13 |
| **7** | 8 | 10 | 11 | 12 | 13 | 14 |