<table>
<tr><th>Question Number</th><th>Scheme</th><th>Marks</th></tr>
<tr><td>2(a)

(b)</td><td>P(T = 0) = P(0 + 0, or $-1+1$)
$= 0.4^2 + 2(0.2\times0.4)$ = 0.32*

<table><tr><td>t</td><td>-2</td><td>-1</td><td>0</td><td>1</td><td>2</td></tr><tr><td>P($T = t$)</td><td>$0.2^2 =$ 0.04</td><td>$2\times0.2\times0.4 =$ 0.16</td><td>(0.32)</td><td>$2\times0.4^2 =$ 0.32</td><td>$0.4^2 =$ 0.16</td></tr></table></td><td>M1
A1
(2)

B1
M1M1
A1
(4)</td></tr>
<tr><td></td><td></td><td>Total 6</td></tr>
<tr><td colspan="3">Notes</td></tr>
<tr><td>(a)</td><td>M 1</td><td>for identifying (0,0) and (–1,1) as the two cases that result in T = 0
May be implied by seeing 0.4^2 and 0.2×0.4 with no other calculations added.
Or identifying (–1, –1) and (1,1) and (–1,0) and (0,1) and subtracting from 1
May be implied by $1-0.2^2-3\times0.4^2-2\times0.2\times0.4$ with no other calculations subtracted
Do not allow 2×0.4^2</td></tr>
<tr><td></td><td>A1</td><td>for complete calculation shown. Need to see $0.4^2 + 2(0.2\times0.4)$ or $0.16 + 2(0.08)$ leading to 0.32 oe</td></tr>
<tr><td>(b)</td><td>B1</td><td>for identifying the correct set of T values – extras must have a probability of 0
May be split eg -1 may appear twice

<table><tr><td>pairs</td><td>$-1,-1$</td><td>$-1,0$ or $0,-1$</td><td>$0,1$ or $1,0$</td><td>$1,1$</td></tr><tr><td>P($T = t$)</td><td>$0.2^2 =$ 0.04</td><td>$2\times0.2\times0.4 =$ 0.16</td><td>$2\times0.4^2 =$ 0.32</td><td>$0.4^2 =$ 0.16</td></tr></table></td></tr>
<tr><td></td><td>1st M1</td><td>for at least two correct calculations or probs attached to the correct value of t (from the four listed) or at least two correct calculations or probs attached to the correct pair. See table. Must have <u>added</u> the calculations/probs for {(-1,0) and (0,-1)} and {(0,1) and (1,0)} if calculated separately</td></tr>
<tr><td></td><td>2nd M1</td><td>for all four calculations or probs attached to the correct value of t (from the four listed) or all four correct calculations or probs attached to the correct pair. See table</td></tr>
<tr><td></td><td>A1</td><td>for full set of probabilities associated with respective T values. Allow equivalent fractions. Allow in any order. Condone missing labels</td></tr>
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