

Question Number	Answer	Additional guidance	Mark
<b>8(a)</b>	<p>A description which includes the following points:</p> <ul style="list-style-type: none"> <li>• synthesis of organelles (1)</li> <li>• increase in cell size / growth of cell (1)</li> <li>• {synthesis / replication} of DNA (1)</li> </ul>	<p>ignore references to G1, S and G2</p> <p>accept {replication / increasing number} of organelles</p> <p>accept synthesis of {proteins / enzymes} required for the next part of the cell cycle</p> <p>accept increase in cytoplasm</p> <p>ignore growth of organelles</p> <p>accept {DNA / genetic material} is doubled</p>	<b>(3)</b>

Question Number	Answer	Additional guidance	Mark
<b>8(b)</b>	<p>An answer that includes four of the following points:</p> <ul style="list-style-type: none"> <li>• {methyl groups / CH<sub>3</sub>} are added to {DNA / the gene/ cytosine} (1)</li> <li>• (resulting in RB) gene being {switched off / silenced} (1)</li> <li>• (methylation) prevents the binding of {RNA polymerase / transcription factors} (1)</li> <li>• (therefore) translation (of mRNA) does not occur (1)</li> <li>• (therefore the) {RB / tumour suppressor} protein isn't produced (1)</li> <li>• and {the cell cycle / mitosis} continues (forming a tumour) / {reduced / no} inhibition of tumour growth (1)</li> </ul>	<p>ignore methylation of the gene</p> <p>accept gene is not {expressed / active}</p> <p>accept {no / reduced} transcription of (RB) gene / mRNA is not produced (from RB gene)</p> <p>accept fewer {RB / tumour suppressor} proteins are produced</p> <p>accept higher rate of cell division occurs</p>	<b>(4)</b>