

Solutions

Each answer shows the steps, then the **result**.

2.1

- They check that conditions are correct before the cell proceeds to the next phase

2.2

- The G1 checkpoint

2.3

- Cancer (uncontrolled cell division)

3.1 B

- cancer

3.2

(a)

- It should pause the cycle to repair the DNA (or prevent division)

(b)

- If it fails, the cell divides with damaged DNA, passing the errors on and possibly leading to uncontrolled division (cancer)

3.3

- Checkpoints ensure the DNA is copied correctly and conditions are right before division, so each daughter cell receives a complete, accurate set of chromosomes