

5 Chromosomes and mitosis — Part 2

— Answers

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Work through these after trying the questions yourself.

5.1 Any two of: growth, repair, replacement of damaged cells, asexual reproduction.

5.2 They carry exactly the same genes as the parent cell and as each other.

5.3 (a) metaphase \ (b) anaphase.

5.4 The chromosomes coil up and become visible (as two chromatids); the nuclear envelope breaks down and a spindle forms.

5.5 Cytokinesis.

5.6 The control of the cell cycle is lost, so a cell divides again and again without stopping, forming a lump of cells (a tumour).

5.7 The tumour's cells still divide by mitosis, making identical copies. The harm comes from the *loss of control*: the cell cycle no longer stops the divisions, so the cells keep multiplying and build up into a damaging mass.