

## 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.