

Solutions

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

2.1

- The same DNA

2.2

- The process by which an unspecialized cell becomes specialized

2.3

- They express different genes

3.1 B

- express different genes

3.2

(a)

- Differentiation

(b)

- The cell switches on the genes needed for the muscle-cell type and switches off others, so the same DNA yields a specialized cell

3.3

- Both have the gene, but only the pancreatic cell expresses (transcribes and translates) it; in the skin cell the insulin gene is switched off