Solutions

Marking: **M1** a correct method, **A1** the correct answer, **B1** an independent mark.

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

2.1

- contains all the **nutrients** (and fibre and water)
- in the **correct proportions** / right amount of energy

2.2

- **protein**
- for **growth and repair** of tissues / making enzymes

2.3

- helps **peristalsis** / prevents **constipation**

2.4

- X **rickets**
- Y **scurvy**

2.5

- **iron**: to make **haemoglobin** for the extra blood / the fetus
- **calcium**: for the **bones and teeth** of the growing fetus

2.6

- **vitamin C**
- keeps **tissues** healthy (prevents scurvy)

3.1

A: fat releases about twice as much energy per gram

3.2

D

3.3

(a)

- he is more **active** / does more muscle work
- so his muscles need more energy from **respiration**

(b)

- energy is needed for the **growth of the fetus** (and placenta)
- and for carrying the extra mass / higher metabolism

(c)

- energy $= \frac{1600}{100} \times 45$
- $=$ **720** kJ

(d) $\frac{720}{9000} \times 100 = \mathbf{8}\%$

(e)

- milk provides **calcium** for her growing **bones and teeth**
- and extra **protein** for growth

(f) the extra energy is stored as **fat**