Solutions

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

2.1

- $a = F/m = 18/6 = 3$ m s^{-2}

2.2

- $F = ma = 3 \times 4 = 12$ N

2.3

- $m = F/a = 10/2 = 5$ kg

2.4

- $F_{net} = 25 - 10 = 15$ N; $a = 15/5 = 3$ m s^{-2}

3.1 B

- $a = F/m$, so doubling m halves a

3.2 B

- $a = 6/2 = 3$ m s^{-2}

3.3

(a)

- $F = ma = 1200 \times 2.5 = 3000$ N

(b)

- It decreases (more mass, less acceleration for the same force)

3.4

(a)

- $12 - 4 = 8$ N

(b)

- $a = 8/2 = 4$ m s^{-2}