

Solutions

Marking: **M1** a correct method, **A1** the correct answer.

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

2.1

- $2x > 8$
- $x > 4$

2.2

- dividing by -3 **reverses** the sign
- $x \geq -4$

2.3

- $5x < 15$
- $x < 3$

2.4

- $-4x > 16$
- dividing by -4 reverses the sign: $x < -4$

2.5

- open circle at -1 , filled at 4
- $-1 < x \leq 4$

3.1

- subtract 1: $4 \leq 2x \leq 10$
- divide by 2: $2 \leq x \leq 5$

3.2

- exclude -2 , include 3
- $-1, 0, 1, 2, 3$

3.3

- $-2x \geq -6$
- dividing by -2 reverses: $x \leq 3$

3.4

(a)

- subtract 5: $-16 < 4x \leq 8$
- divide by 4: $-4 < x \leq 2$

(b)

- exclude -4 , include 2
- **$-3, -2, -1, 0, 1, 2$**

(c)

- $-4x \geq 12$
- dividing by -4 **reverses** the inequality
- **$x \leq -3$**

(d)

- perimeter $= 2x + 2(x + 5) = 4x + 10$
- $30 \leq 4x + 10 < 50$
- $20 \leq 4x < 40$
- **$5 \leq x < 10$**