

Solutions

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

2.1

- (i) **A**; (ii) **C**
- (iii) **F**

2.2

- **C**
- 95 >= 70 is true first, so the chain stops before the other tests

2.3

```
if (x < 0) System.out.println("negative");
else if (x == 0) System.out.println("zero");
else System.out.println("positive");
```

- two tests in an **else if** chain
- **else** for the last case

3.1 A

- 15 % 3 == 0 is true first; the rest is skipped

3.2 C

- 3 > 5 is false, so the whole inner **if-else** is skipped; the last print always runs

3.3 B

- separate ifs: 15 % 3 == 0 prints Fizz; then 15 % 5 == 0 prints Buzz, so its **else** does not run

3.4

(a)

```
int cost;
if (kg > 30) cost = -1;
else if (kg > 10) cost = 20;
else if (kg > 2) cost = 12;
else cost = 6;
```

- refusal tested **first**
- 20 for over 10 kg
- 12 for over 2 kg
- 6 otherwise

(b)

- `if (express) { if (cost != -1) cost += 5; }`

(c)

- 10 kg is not over 10: 12, plus 5: **17**