

Solutions

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

2.1

- $0 \bmod 2$ is 0, so the condition is true: **even**

2.2

- **exactly one**: the IF block or the ELSE block

2.3

```
IF(age < 5)
{
    DISPLAY("free")
}
ELSE
{
    DISPLAY("ticket")
}
```

- condition $\text{age} < 5$
- "free" in the IF block, "ticket" in the ELSE block

2.4

- $3 > 2$, so y is 5; then $5 > 4$, so y is **7**

3.1 B

- $30 > 25$ displays hot; DISPLAY("done") is outside the conditional, so it always runs

3.2 A

- when $a > b$ the larger is a, otherwise b (also correct when equal)

3.3 C

- first IF: $10 > 5$, so count is 4; then $4 < 5$, so count is **5**

3.4

(a)

```
IF(total < 20)
{
    delivery ← 3
}
ELSE
{
    delivery ← 0
}
```

- condition $\text{total} < 20$
- 3 when true, 0 otherwise

(b)

- $\text{pay} \leftarrow \text{total} + \text{delivery}$

(c)

- **total** is exactly **20**
- $20 > 20$ is false, so the customer is charged 3 dollars, but orders of exactly 20 dollars should have free delivery: it should be $\text{total} \geq 20$