Solutions

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

2.1

- $5 \times 3 = \mathbf{15}$

2.2

- `1234`, `234`, `34`, `4`

2.3

```
for (int r = 0; r < 3; r++)
{
    for (int c = 0; c < 5; c++) System.out.print("#");
    System.out.println();
}
```

- outer loop runs 3 times
- inner loop prints 5 `#`
- `println()` after the inner loop

3.1 A

- `i` = 1: 1, 2; `i` = 2: 2, 4; `i` = 3: 3, 6

3.2 B

- inner passes $6 + 5 + 4 + 3 + 2 + 1 = 21$

3.3 A

- rows of 3, 2, 1 stars; B counts up; C prints 3 every row; D prints one line

3.4

(a)

```
int count = 0;
for (int d1 = 1; d1 <= 6; d1++)
    for (int d2 = 1; d2 <= 6; d2++)
        if (d1 + d2 == 7) count++;
```

- both loops 1 to 6
- tests `d1 + d2 == 7`
- counts

(b)

- (1, 6), (2, 5), …, (6, 1): **6**
- inner body runs $6 \times 6 = \mathbf{36}$ times

(c)

- `for (int d = 1; d <= 6; d++) System.out.println(d + ", " + d);`
- the second die must equal the first, so there is only **one** value to try for it