Solutions

2.1

- P – the /8 matches; the default is only for non-matches ✓.

2.2

- Direct A–B = 4; via C = 2 + 1 = 3 ✓.

2.3

- C, at 2 ✓.

3.1

- `10.4.7.9` → R (the /24 matches and is longest) ✓.
- `10.4.9.9` → Q (only the /16 matches) ✓.
- `10.9.9.9` → P (only the /8) ✓.
- `172.16.1.1` → D (nothing matches; the default) ✓.
- Hijack: `10.4.7.128/25 → H` – /25 > /24, so it wins for addresses 128–255 of that block ✓.
- The default exists so the table need not hold a route for every possible destination ✓.

3.2

- Settle order: C 2, B 3, D 8, E 10, F 13 ✓.
- B settles at 3 because settling C (2) relaxes B through the C–B edge of weight 1: $2 + 1 = 3 < 4$ ✓.
- F: A C B D E F, total $2 + 1 + 5 + 2 + 3 = 13$ ✓.
- Deleting D–E (weight 2) forces E via C at 12, so F becomes $\min(8 + 6, 12 + 3) = 14$ via D ✓.

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