Solutions

2.1

- On the class (class attribute) ✓.
- Reads 3: incremented once per construction ✓.

2.2

- One less than before – the same object ✓.
- `d` is an alias of `c`: assignment copies the reference, not the object ✓.

2.3

- `==` is `False`: with no `__eq__`, equality is identity ✓.
- `is` is `False`: two distinct objects ✓. Identity compares objects; equality compares values once defined.

3.1

- `Copy.total` is 3 ✓.
- `x.total` is 99 – the assignment shadows in the instance dict ✓.
- The other two read 3: their instance dicts are empty, lookup falls to the class ✓.
- One counter must agree across all instances – shared state lives where it is shared, on the class ✓.

3.2

- `p.copies` is 2, `r.copies` is 2 – same object, one take ✓.
- `q.copies` is 3 – a second object, untouched ✓.
- `p == q` is `False` (default equality is identity); `p is r` is `True` (one object); `q is p` is `False` (distinct objects) ✓. Equality compares values, identity compares objects ✓.