Solutions

2.1

- Response rate = 342/6,000 = 5.7%.
- $1.96\sqrt{0.71 \times 0.29/342} = 0.048$.
- Interval = [66.2%, 75.8%].
- Stated with both hedges: interval AND response rate.

2.2

- Enthusiastic plant-lovers answer plant surveys – selection + non-response bias.
- Repair: an A/B offer to a random sample watches behaviour.
- Behaviour, not intention, is the launch number.

2.3

- "Of past customers, what share would subscribe at £X within 30 days?"
- Data: a random-sample offer with actual orders counted.
- Any refutable version earns the marks; unfalsifiable earns none.

2.4

- Rate = 29/250 = 11.6%.
- The intent-behaviour gap again: 71% said, 11.6% did – steer by the 11.6%.

2.5

- (a) False – needs 4× the sample (root n).
- (b) False – design error survives any size.
- (c) True – only controlled tests prove causation.

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