1. Inference about a proportion mainly does what?
   - ☐ makes the sample bigger than it was
   - ☐ uses sample data to estimate or test a population proportion
   - ☐ removes all uncertainty about the population
   - ☐ guarantees we find the true value of p

2. n = 100, $\hat{p} = 0.60$. Compute the standard error $\sqrt{(\hat{p}(1-\hat{p})/n)}$. Two decimals.

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3. The correct interpretation of a 95% confidence level is...
   - ☐ about 95% of intervals built this way capture p over many samples
   - ☐ 95% of the data lie in the interval
   - ☐ the sample is 95% accurate
   - ☐ there's a 95% probability p is in this one interval

4. The null hypothesis for a one-proportion test has the form...
   - ☐ H0: p = p0
   - ☐ H0: $\hat{p} = 0$
   - ☐ Ha: p > 1
   - ☐ Ha: $p \neq p0$

5. The p-value is the probability of a result at least as extreme as observed, assuming...
   - ☐ $\hat{p} = 0.5$
   - ☐ H0 is true
   - ☐ Ha is true
   - ☐ the sample is biased

6. The decision rule for a significance test is: reject H0 when...
   - ☐ z = 0
   - ☐ $\hat{p} = p0$
   - ☐ p-value $\leq \alpha$
   - ☐ p-value $> \alpha$

7. For a test calibrated at significance level α, α is the nominal Type I error level.
   ☐ True ☐ False

8. $\hat{p}1 = 0.60$, $\hat{p}2 = 0.50$. Find the point estimate $\hat{p}1 - \hat{p}2$.

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9. If a difference interval contains 0, no difference between the groups is plausible.
   ☐ True ☐ False

10. Using the given rounded SE = 0.061, find (0.30 - 0.20)/0.061 to two decimals.

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1. **uses sample data to estimate or test a population proportion**

   Inference connects a sample to a population parameter and reports sampling uncertainty under the study assumptions.

2. **0.05**

   $\sqrt{(0.6 \cdot 0.4/100)} = \sqrt{0.0024} \approx 0.049 \approx 0.05$.

3. **about 95% of intervals built this way capture p over many samples**

   Confidence describes the method over repeated sampling.

4. **H0: p = p0**

   H0 states a specific value p0 (the status quo).

5. **H0 is true**

   p-value is computed under the assumption that H0 is true.

6. **p-value $\leq \alpha$**

   Reject when the p-value is at most the significance level.

7. **True**

   α is the chosen false-rejection level under H0. Approximate and discrete procedures need not have actual error probability exactly α.

8. **0.1**

   $0.60 - 0.50 = 0.10$.

9. **True**

   0 inside → 'no difference' can't be ruled out.

10. **1.64**

    Using exactly the supplied rounded SE gives $0.10/0.061 \approx 1.6393$, or 1.64. Using the unrounded formula gives 1.633 instead; retain precision in an actual analysis.