Practice worksheet | Sampling and confidence intervals

Assessing claims and limitations

Name: _____ Date: _____

6 questions | 12 marks

1. A 95% mean interval is $(21, 25)$. Is target mean 23 compatible? Is it proved? [2 marks]

2. A 95% proportion interval is $(0.56, 0.64)$. Give a cautious majority statement. [2 marks]

3. A researcher reports only the narrowest interval from 20 post-hoc exclusions. What is wrong? [2 marks]

4. Two group mean intervals overlap. Why is “the means are equal” unjustified? [2 marks]

5. A mean difference is precisely estimated at 0.02 mm. What else matters in an engineering decision? [2 marks]

6. A 2024 survey is used to claim a 2026 preference. Give a limitation. [2 marks]