Lesson 9.4 Practice: The Central Limit Theorem

School Launch · Statistics · Unit 9: Sampling Distributions · Worksheet A

Calculator / tables

Name _____ Date _____ Score _____ / 10

Show your work under each problem, one step per line, and check your answer. Word problems: name the unknown, write the equation, solve, and answer in a sentence with units.

1. A skewed population has mean 19 and SD 20. For a random sample of 65, why may we use a normal model for $\bar{x}$? Find $P(\bar{x} < 16.0)$ (four decimals). EASY

2. A skewed population has mean 41 and SD 11. For a random sample of 70, why may we use a normal model for $\bar{x}$? Find $P(\bar{x} < 40.3)$ (four decimals). EASY

3. A skewed population has mean 32 and SD 7. For a random sample of 31, why may we use a normal model for $\bar{x}$? Find $P(\bar{x} < 30.9)$ (four decimals). EASY

4. A skewed population has mean 13 and SD 10. For a random sample of 66, why may we use a normal model for $\bar{x}$? Find $P(\bar{x} < 11.9)$ (four decimals). MEDIUM

5. A skewed population has mean 55 and SD 20. For a random sample of 51, why may we use a normal model for $\bar{x}$? Find $P(\bar{x} < 50.8)$ (four decimals). MEDIUM

6. A skewed population has mean 22 and SD 8. For a random sample of 43, why may we use a normal model for $\bar{x}$? Find $P(\bar{x} < 20.7)$ (four decimals). MEDIUM

7. A skewed population has mean 10 and SD 9. For a random sample of 78, why may we use a normal model for $\bar{x}$? Find $P(\bar{x} < 9.0)$ (four decimals). MEDIUM

8. A skewed population has mean 13 and SD 6. For a random sample of 60, why may we use a normal model for $\bar{x}$? Find $P(\bar{x} < 12.3)$ (four decimals). HARD

9. A skewed population has mean 30 and SD 10. For a random sample of 73, why may we use a normal model for $\bar{x}$? Find $P(\bar{x} < 28.3)$ (four decimals). HARD

10. A skewed population has mean 34 and SD 14. For a random sample of 47, why may we use a normal model for $\bar{x}$? Find $P(\bar{x} < 33.1)$ (four decimals). HARD