Lesson 8.3 Practice: The Normal Approximation to the Binomial

School Launch · Statistics · Unit 8: Binomial and Geometric 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. $X \sim B(118, 0.2)$. Check the large-counts condition and use the normal approximation with continuity correction to estimate $P(X \geq 29)$ (four decimals).

EASY

2. $X \sim B(353, 0.5)$. Check the large-counts condition and use the normal approximation with continuity correction to estimate $P(X \geq 181)$ (four decimals).

EASY

3. $X \sim B(167, 0.8)$. Check the large-counts condition and use the normal approximation with continuity correction to estimate $P(X \geq 138)$ (four decimals).

EASY

4. $X \sim B(233, 0.8)$. Check the large-counts condition and use the normal approximation with continuity correction to estimate $P(X \geq 182)$ (four decimals).

MEDIUM

5. $X \sim B(98, 0.6)$. Check the large-counts condition and use the normal approximation with continuity correction to estimate $P(X \geq 65)$ (four decimals).

MEDIUM

6. $X \sim B(392, 0.3)$. Check the large-counts condition and use the normal approximation with continuity correction to estimate $P(X \geq 107)$ (four decimals).

MEDIUM

7. $X \sim B(132, 0.8)$. Check the large-counts condition and use the normal approximation with continuity correction to estimate $P(X \geq 103)$ (four decimals).

MEDIUM

8. $X \sim B(269, 0.5)$. Check the large-counts condition and use the normal approximation with continuity correction to estimate $P(X \geq 133)$ (four decimals).

HARD

9. $X \sim B(296, 0.3)$. Check the large-counts condition and use the normal approximation with continuity correction to estimate $P(X \geq 90)$ (four decimals).

HARD

10. $X \sim B(286, 0.4)$. Check the large-counts condition and use the normal approximation with continuity correction to estimate $P(X \geq 115)$ (four decimals). HARD