Lesson 5.4 Practice: Observational Studies and Experiments

School Launch · Statistics · Unit 5: Collecting Data: Samples and Experiments · 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. An experiment compares 3 fertilizers on 60 plots, assigned completely at random with equal group sizes. How many plots get each fertilizer? EASY

2. An experiment compares 2 fertilizers on 76 plots, assigned completely at random with equal group sizes. How many plots get each fertilizer? EASY

3. An experiment compares 2 fertilizers on 68 plots, assigned completely at random with equal group sizes. How many plots get each fertilizer? EASY

4. A study uses two factors: light (3 levels) and water (3 levels), with 33 subjects per treatment. How many treatments and subjects are needed? Name the principle that random assignment supports. MEDIUM

5. A study uses two factors: light (3 levels) and water (2 levels), with 18 subjects per treatment. How many treatments and subjects are needed? Name the principle that random assignment supports. MEDIUM

6. A study uses two factors: light (2 levels) and water (3 levels), with 13 subjects per treatment. How many treatments and subjects are needed? Name the principle that random assignment supports. MEDIUM

7. A study uses two factors: light (2 levels) and water (3 levels), with 25 subjects per treatment. How many treatments and subjects are needed? Name the principle that random assignment supports. MEDIUM

8. A study uses two factors: light (2 levels) and water (2 levels), with 38 subjects per treatment. How many treatments and subjects are needed? Name the principle that random assignment supports. HARD

9. A study uses two factors: light (3 levels) and water (3 levels), with 24 subjects per treatment. How many treatments and subjects are needed? Name the principle that random assignment supports. HARD

10. A study uses two factors: light (3 levels) and water (2 levels), with 26 subjects per treatment. How many treatments and subjects are needed? Name the principle that random assignment supports. HARD