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Date _____
Algebra II

Designing Controlled Experiments

1. A high school wants to determine if taking a Regents Review course causes students to score higher on the Common Core Geometry Regents Exam. Describe a controlled experiment that can be created to test this hypothesis.

randomly select a sample of students
randomly assign half to a treatment group and half to control group
have the treatment group take the review course
analyze the data

2. A company created a pill that is supposed to reduce the length of the common cold. Describe a controlled experiment to test this hypothesis.

randomly select a sample of people who have colds
randomly assign half to a control group and half to a treatment group
give the pill to the treatment group and a placebo to the control group
analyze the data

3. A farm is experimenting with a drug to increase the size of its chickens. Describe a controlled experiment that can be performed to see if this drug is effective.

randomly select a sample of chickens
randomly assign half to a control group and half to a treatment group
give the drug to the treatment group and a placebo to the control group
analyze the data

4. Describe how a controlled experiment can be created to examine the effect of ingredient X in a toothpaste.

randomly select a sample of people
randomly assign half to a treatment group and half to a control group
give toothpaste with the ingredient to treatment group, give toothpaste without the ingredient to the control group
analyze data

5. Todd bought a bag of magic soil at a carnival that is supposed to grow plants without sunlight. Describe a controlled experiment that Todd could create to determine if the magic soil works.

randomly select plants
randomly assign half of them to treatment group and half to control group
plant treatment group in "magic soil," plant control group in regular soil
analyze the data

6. Milk Makers is a company that makes cookies that are supposed to increase the amount of milk that mothers of newborns produce. Phil believes that the cookies do not increase the amount of milk and that the company is trying to take advantage of women. Describe a controlled experiment that can be performed to determine if Milk Makers cookies are effective.

randomly select nursing women
randomly assign half to control group and half to treatment group
give treatment group milkmakers and give control group regular cookies
analyze data

7. Bic is experimenting with a new type of pen that is supposed to last longer than other pens. Describe a controlled experiment that can be created to determine if this type of pen in fact lasts longer.

randomly select a group of people
randomly assign half to a control group and half to a ~~data~~ treatment group
give new pen to treatment group and standard pen to control group
analyze the data

8. A company is marketing a type of razor that is supposed to increase the amount of time between shaving. Describe a controlled experiment that can be created to determine if this razor is effective.

randomly select men to participate in experiment
randomly assign half to control group and half to treatment group
give new razor to treatment group and standard razor to control group
analyze the data