Scientific Method Test Review: Sample Problems

1. A rancher has always used Type A oats. He decides he wants to see if there is another kind that’s better for making his horses coats shine. He feeds 3 horses of the same breed three different types of oats: Oats A, B and C. After 3 months, he can see that the horses that were fed type C oats have shinier thicker coats.
   1. What was the rancher’s hypothesis?
   2. What was his independent variable?
   3. What was his dependent variable?
   4. What were some constants he should pay attention to?
   5. Did his conclusion match his hypothesis?
2. A baker has always used Pillsbury flour to make his piecrusts. He decides to test if a cheaper flour works just as well. He uses Western Family, Pillsbury and Gold Medal flour each in a piecrust. The Pillsbury crust is lighter and flakier and preferred by more customers.
   1. What was the baker’s hypothesis?
   2. What was his independent variable?
   3. What was his dependent variable?
   4. What were some constants he should pay attention to?
   5. Did his conclusion support his hypothesis
3. A gardner who has always used Miracle Grow wants to know if a less expensive brand works just as well for making plants produce more tomatoes. He takes two tomato plants each 2 inches tall and adds 2 tsp of either miracle grow or the generic brand to the water once a week. After 1 month, both plants have the same number of tomatoes.
   1. What is the most likely hypothesis?
   2. What is the independent variable?
   3. What is the dependent variable?
   4. What are two constants listed in the example?
   5. What are two constants not listed, but should be paid attention to?
   6. What conclusion can the gardener draw from this experiment?
4. Design an experiment that would test if Energizer batteries last longer that Duracel or Western Family batteries.