Determine if each case is inductive or deductive reasoning and explain why.

1. A scientist dips a platinum wire into a solution containing salt, passes the wire over flame, and observes that it produces an orange-yellow flame. She does this with many other solutions that contain salt, finding that they all produce an orange-yellow flame. She states “A solution that contains salt produces an orange-yellow flame in a flame test”.

2. EJ was learning to drive when his father told him to never run the car if the overheat light comes on. Last summer while driving to Las Vegas, his overheat light turned on so he turned off the car and called for help.

3. Your teacher tells the class that no credit will be given to assignments that show not work. For two months you do your homework. Last week, you assignment had a couple of problems where not work was shown. You received no credit for the assignment.

4. Alyssa was working for AJ inc. In August, she worked really hard on all six projects she was assigned and finished them all before their due dates. On her August paycheck, she had $300 extra. In September, she finished one project early and three projects on time. Her September paycheck was normal. In October, she finished four projects early and one project late. Her October paycheck was normal. In November, she finished three projects early. Her November paycheck had a $150 extra. She determines that if she finishes all of her projects for the month early, she will receive a $50 bonus for each project.

5. Hunter notices that every day his math teacher wears what seems to be a different tie every day. He starts keeping track of what his teacher wears. After one semester, Hunter approaches his teacher and states, “I think you wear different tie every day, do you have a 180 different ties?”

6. Since today is Friday, tomorrow will be Saturday.

7. Since it shows every New Year’s Day for the past four years, it will snow on New Year’s Day this year.

8. A child examines ten tulips, all of which are red, and concludes that all tulips must be red.

9. If an isosceles triangle has at least two sides congruent, then an equilateral triangle is also isosceles.

10. Sandy earned A’s on her first six geometry tests so she concludes that she will always earn A’s on Geometry tests.

11. If $5x = 25$, then $x = 5$