Steps for optimization:

1. Identify whether this is a maximization or minimization problem. (For the purposes of this guide, we'll assume it's a maximization problem).
2. Identify the quantity to be maximized. (For the purposes of this guide, we'll call this quantity Q).
3. State the objective of the problem: Obj.: Max. Q.
4. Find a formula for the quantity Q.
5. Restate the objective using the formula for Q.
6. Determine if there are any constraints in the problem. This is especially relevant if the formula for Q is a function of more than one variable.
7. If there are any relevant constraints, substitute them into the formula for Q. If the formula for Q had more than one variable, then use the constraints to eliminate the extra variables.
8. Take the first derivative of the simplified formula.
9. Set the first derivative equal to 0 and solve for x, the variable in the formula.
10. Find the second derivative, and check its sign at all the values of x found in the previous step.
11. Identify where x is a maximum. Call this number x^*.
12. Find the values of the other variables for this value x^*.
13. Find the value of Q for this value x^*. This is the maximum value of Q.