Consider the Paris Paint example we solved in class. Using the output from the LP solver, answer the following questions:

(a) The company originally estimated the cost of firing as $2500. However, it turns out that this cost is actually $3000. How would this impact the solution and the objective function value?

(b) The cost of producing one unit during overtime increased from the estimated $7875 to $8250 due to insurance and other issues. How would this change impact the solution and the objective function value?

(c) Instead of having 20 units, the company decided that they should have at least 50 units of inventory on hand at the end of the 4th quarter. What is the impact of this change on the objective function value?

(d) The company has the opportunity to increase the availability of overtime production in the first period by paying some additional money to the workers. Would you recommend that the company considers this option? If yes, in which period?

(e) Paris Paint can currently subcontract up to 100 units in each quarter at $7000 per unit. The subcontracting company offered additional units up to 150, however will charge $7500 per unit if the order quantity exceeds 100. Should Paris Paint consider this offer? If yes, in which period?