Part one: Look at the following problem and answer these questions?

1. How much could the profit on X increase or decrease without changing the values of X and Y in the optional solutions?
2. If the right hand side of constraint 1 were increased by 1 unit, how much would the profit increase?
3. If the right-hand side of constraint 1 were increased by 10 units, how much would profit increase?

Part two:

1. It has been said that each LP problem that has a feasible region has an infinite number of solutions. Explain?

X1 X2 RHS Dual

Maximize 5 6

Constraint 1 2 1 <= 120 .75

Constraint 2 2 3 <= 240 1.75

Solution-> 30 60 510

Variable Value Reduced Cost Original Val Lower Bound Upper Bound

X1 30 0 5 4 12

X2 60 0 6 2.5 7.5

Constraint Dual Value Slack/Surplus Original Val Lower Bound Upper Bound

Constraint 1 .75 0 120 80 240

Constraint 2 1.75 0 240 120 360