This is worth 30 points of extra credit.

I. The proposition “The night is young, and you’re so beautiful” is a substitution instance of which of the following propositional forms? (6 pts)

1. p 
2. q 
3. p & q 
4. p & r 
5. p & q & r 
6. p & p 
7. p or q 

II. Which of the following propositions is a substitution instance of “p & q & q”? (2 pts. each)

1. YES / NO – The night is young, and you’re so beautiful, and my flight leaves in thirty minutes.
2. YES / NO – The night is young, and you’re so beautiful, and my flight leaves in thirty minutes, and my flight leaves in thirty minutes.
3. YES / NO – You’re so beautiful, and you’re so beautiful, and you’re so beautiful.

III. For each of the following claims, determine whether it is true or false. (2 pts each)

1. T / F – An argument that is a substitution instance of a valid argument form is always valid.
2. T / F – An argument that is a substitution instance of an invalid argument form is always invalid.
3. T / F – An invalid argument is always a substitution instance of an invalid argument form.

IV. Are the following arguments valid in virtue of their propositional form? (3 pts each)

1. Mary got married and had a child. Therefore, Mary had a child.
2. John and Tom are equally tall. Therefore, John is tall.

V. Put each of the following sentences in symbolic form. (3 pts each)

1. He won’t arrive on time.
2. He might not arrive on time.