AP Stats Name:_____

Unit 5 Power Practice Date: _____Period:_____

1. From the Example 10.18 handout, we are given $H_0: p_0 = 0.9, and\ H_A: p < 0.9, n = 225, \alpha = 0.01$. The true alternative model was $p = 0.8$

a) What was z^*?

b) What was p^*?

c) Power?

d) β?

2. Keep everything the same and change the alternative model $p = 0.85$

Name the models you will use: *Fill in the blanks.*

N_0 (_____ , _____) and N_A (_____ , _____)

Draw a sketch of the null model and alternative model, connected together with a critical p-value (p*). Clearly label p_0, p_A, and p*, as well as α, β, and power (use those words or letters). Add numbers next to each letter/word label (6 numbers). Please show work for p^* and the z associated with the alternative model.

3. Keep everything the same as the original problem $and\ change\ n = 100$,

a) Name the models you will use: *Fill in the blanks.*

N_0 (_____ , _____) and N_A (_____ , _____)

Same directions as problem 2

4. Keep everything the same as the original problem $and\ change\ \alpha = 0.05$,

a) Name the models you will use: *Fill in the blanks.*

N_0 (_____ , _____) and N_A (_____ , _____)

Same directions as problem 2