Name(s) _____ CM _____

ECE320: Quiz5

Consider the plant

$$G_p(s) = \frac{s+10}{s^2+10s+100}$$

Design a PID controller using *sisotool* with **complex conjugate zeros** so that

$$T_s \le 1.0\ sec$$
$$PO \le 15\%$$

In addition, your controller must be designed so that

$$0 \le k_p \le 8$$
$$0 \le k_i \le 70$$
$$0 \le k_d \le 0.3$$

Write your final values for k_p, k_i, and k_d in the space below, as well as any additional information you wish (such as the transfer function of the controller).

The form of the PID controller is $G_c(s) = \frac{k(s+z)(s+z^*)}{s}$

Note: It is better to have a controller that meets the setting time and percent overshoot requirements than no controller at all, or one that meets the kp, ki, and kd requirements.