

desired denom:  $s^2 + 2(1)(0.46)s + 1^2$

$$= \underline{s^2 + .92s + 1}$$

closed loop TF:

$$\frac{T_o(s)}{T_d(s)} = \frac{\cancel{25} \left( \frac{K_p s + K_I}{s} \right) \frac{25}{2500s + 1}}{1 + \frac{(K_p s + K_I)}{s} \frac{25}{2500s + 1}}$$

$$= \frac{25(K_p s + K_I)}{2500s^2 + (1 + 25K_p)s + 25K_I}$$

$$= \frac{\frac{1}{100}(K_p s + K_I)}{s^2 + \frac{1+25K_p}{2500}s + \frac{K_I}{100}}$$

$\uparrow$  want .92       $\uparrow$  want 1

Choose

$$K_I = 100$$

$$K_p = 92$$