UC Berkeley

EE128 Homework #2

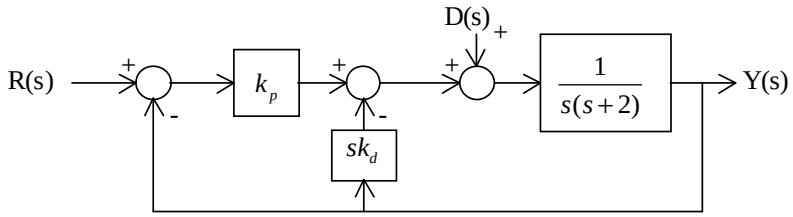
Due on 9/30/05

(1) Textbook problem 3.39 (c)

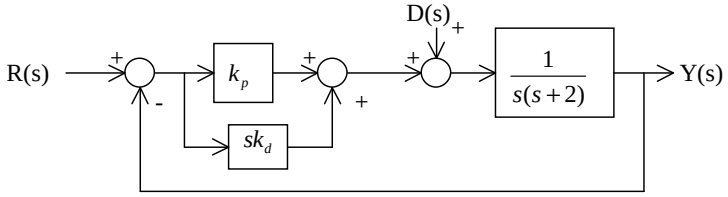
(2) Textbook problem 3.40 (b), (e)

(3) Textbook problem 3.42.

(4) Determine the value of k_p and k_d so that the system's step response has 5% overshoot and the DC gain from D(s) to Y(s) is less than 0.02. (Hint: find the DC gain first.)



(5) Repeat Problem (4) for the following system. You may use MATLAB for this problem.



(5) For the same value of kp and kd, which system, the one in Problem (3) or the one in Problem (4), has a faster tracking performance and which one has a better disturbance rejection? You must justify your answer.

(6) Textbook problem 4.36.

(7) Textbook problem 4.38