PS 5	**NAME**	
Problem 1 1.1	Simple and straight forward. Finds the two sign changes	
Problem 2 2.1	Special case, a zero in the first column. Can substitute epsilon ε for zero	
2.2	When checking whether first column is positive. Must check both if $\varepsilon > 0$ and ir $\varepsilon < 0$.	
2.3	Gets same number of sign changes / poles for both checks.	
Problem 3 3.1	a) Builds Routh Table correctly, finds the value of K for which the first column is positive -- stable	
3.2	b) Understands that the marginally stable poles leads to a row of all zeros.	
3.3	c) Is able to find the pure even factor and factor out the denominator	
3.4	Finds the poles for the system.	
Problem 4 4.1	First finds the correct closed loop transfer function	
4.2	Solves the system of inequalities to find the values for a to yield stability	
Problem 5 5.1	a) Acquired transfer function using equations of motion (yes or no)	
5.2	Acquired transfer function using block diagram and equations of motion (yes or no)	
5.3	b) Understands how to fit in the close loop PD controller into the system	
5.4	Finds the characteristic equation for the closed loop control	
5.5	Builds the correct Routh Table	
5.6	Shows that stability is impossible with this control	
5.7	c) Again finds the correct transfer function for the system	
5.8	Finds the closed loop characteristic equation	
5.9	Builds Routh Table	
5.10	Shows that the system is ALWAYS stable for $K > 0$	