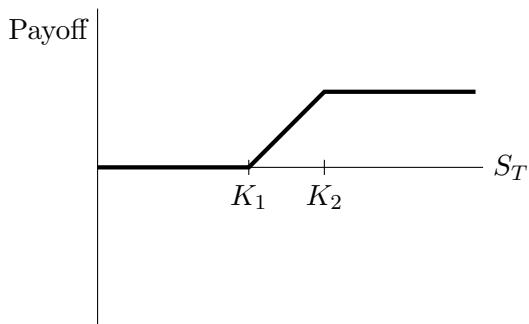


MATH 456, HOMEWORK 1

DUE SEPTEMBER 11, 2013

For each of the following payoff graphs, describe a combination of options (long puts, long calls, short puts, short calls) that reproduces it.

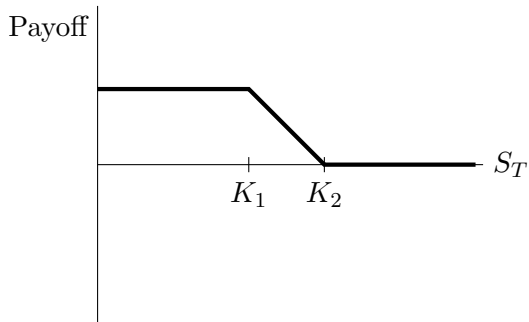
Example.



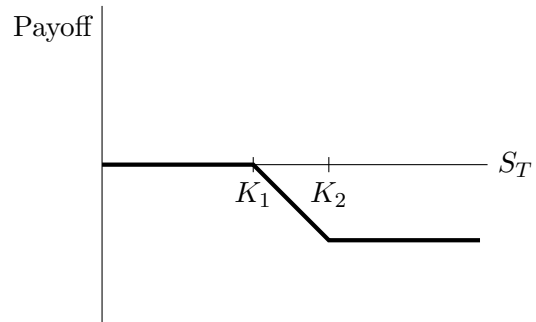
Solution.

Long call struck at K_1 , short call struck at K_2 .

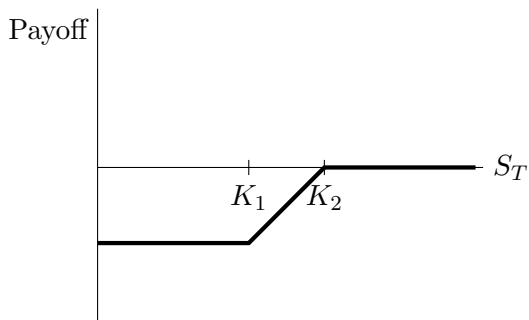
Exercise 1.



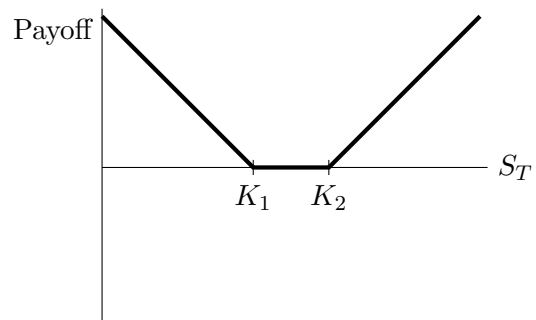
Exercise 2.



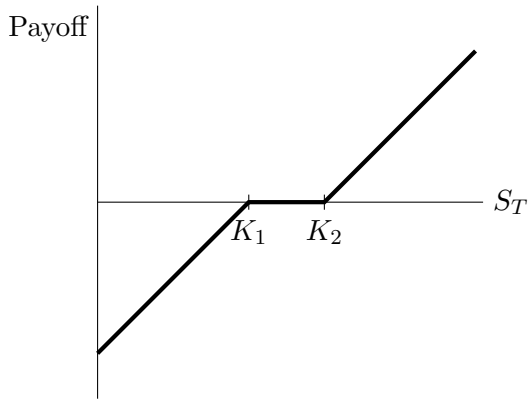
Exercise 3.



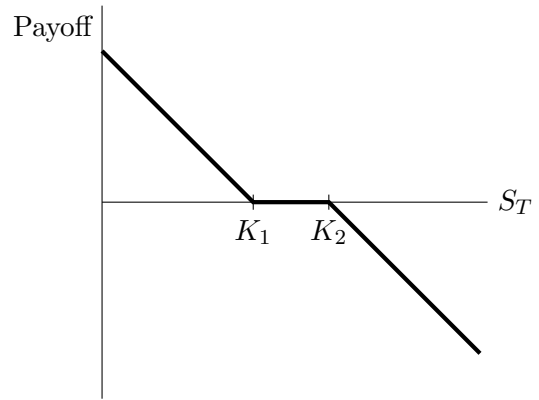
Exercise 4.



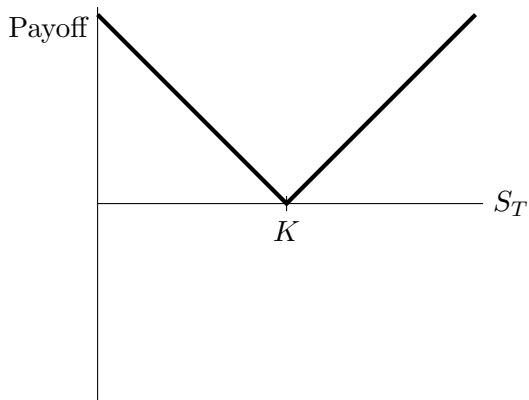
Exercise 5.



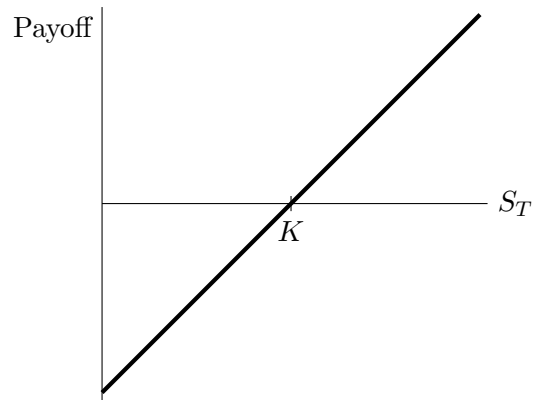
Exercise 6.



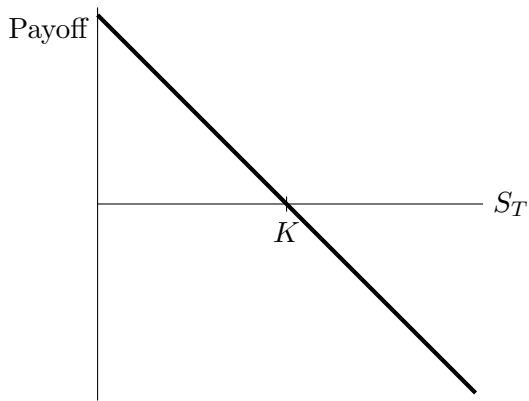
Exercise 7.



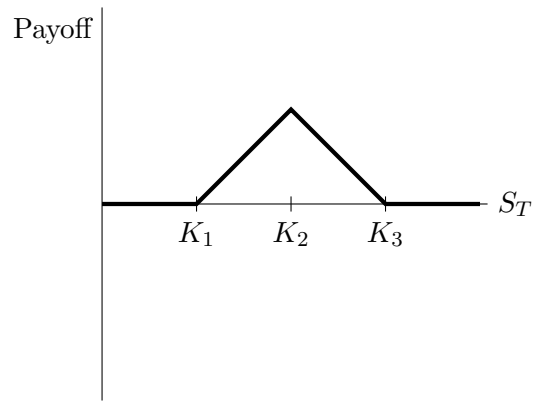
Exercise 8.



Exercise 9.



Exercise 10.



Bonus Exercise. There are two different solutions to Exercise 10. In addition to your original answer, find the second solution.