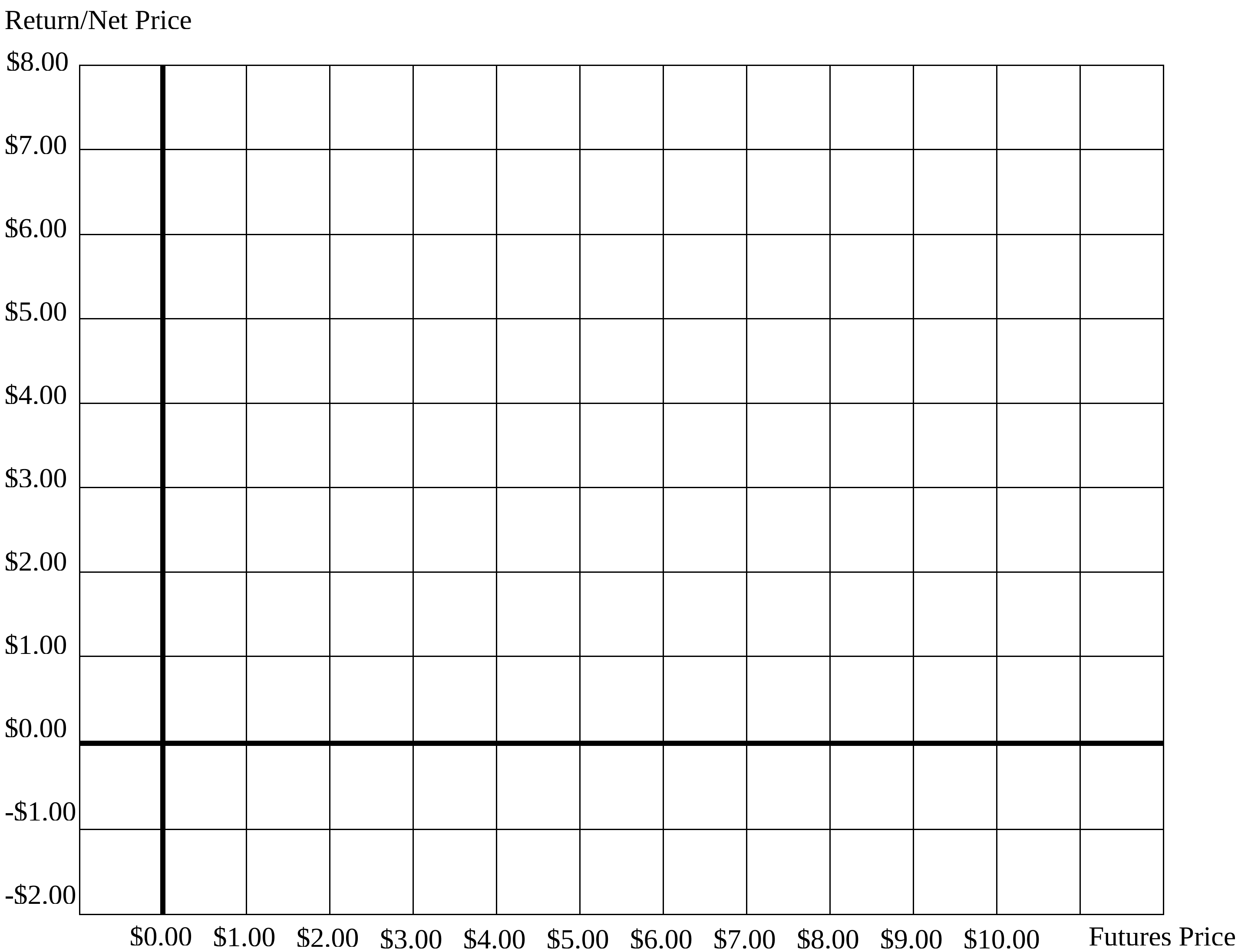
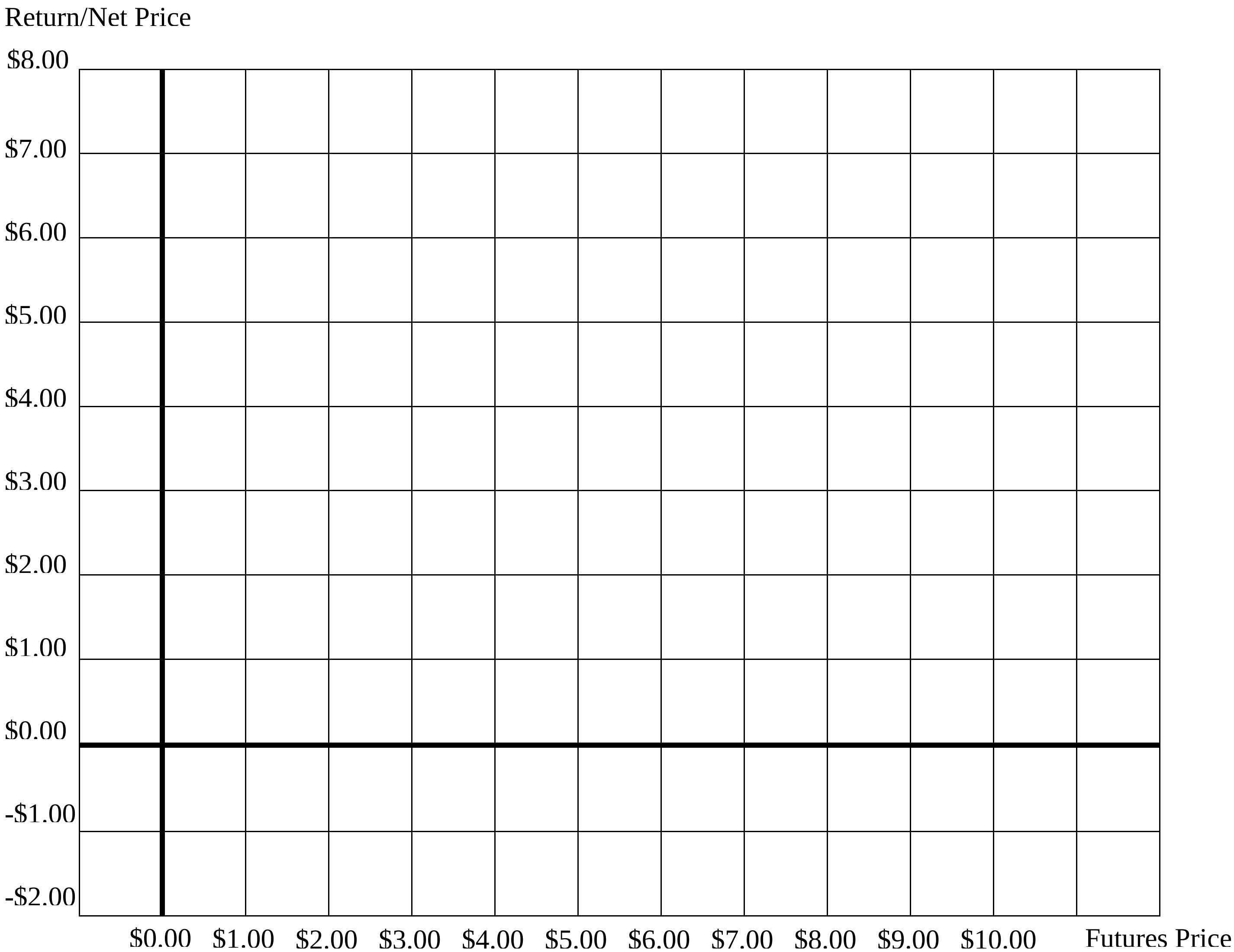
Econ 337 Spring 2020
Homework #2 Due 2/20/20
70 points

For the following questions use the attached futures and options data. Assume historical expected basis of -$0.25 per bushel and a commission of $0.01 per bushel for both crops. **Show the math and draw the graph.** Label each of your lines (cash, futures, put, call, and net).

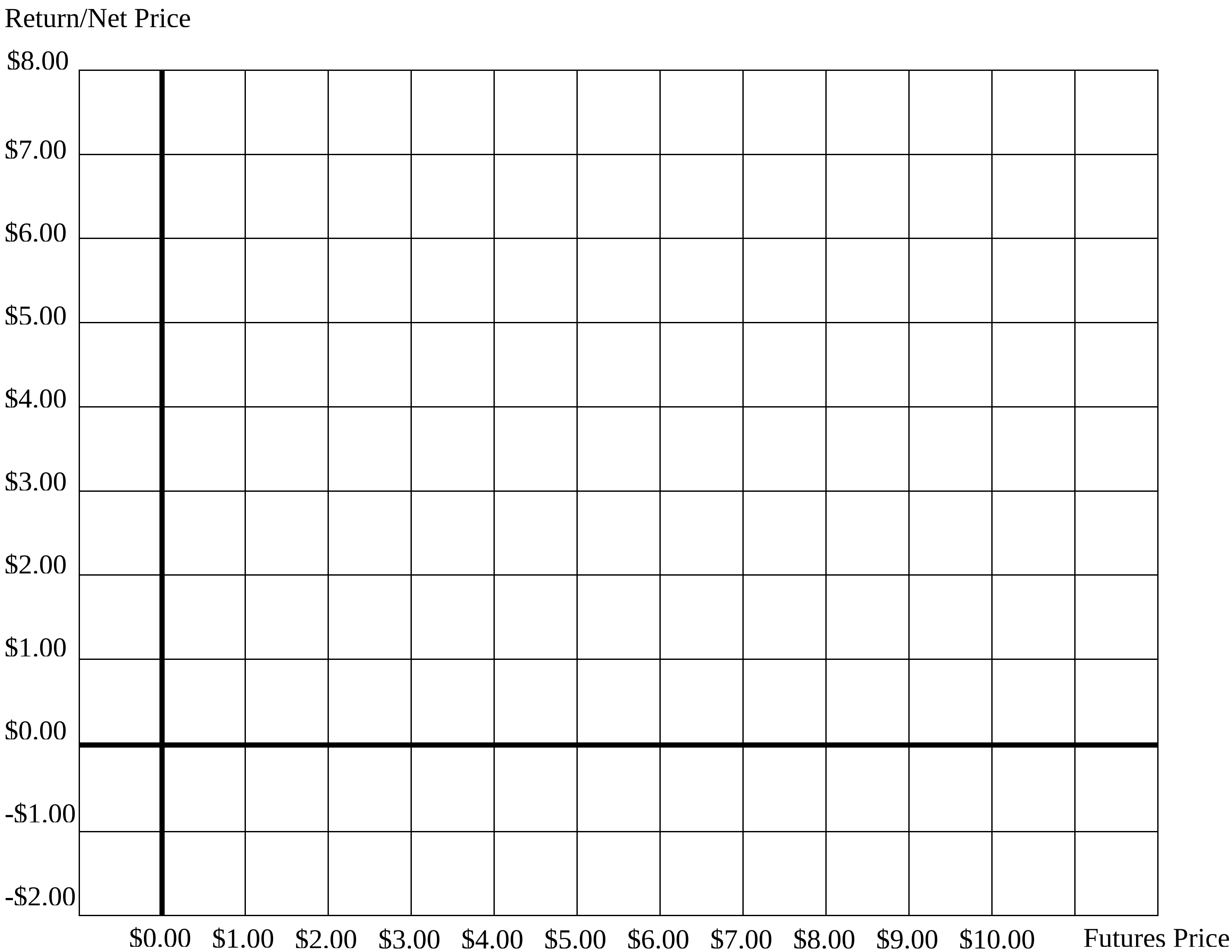
1. A speculator buys a $4.00 put option on Dec. 2020 corn futures. What does she pay for the option? At what price does she breakeven (where her return is equal to zero)? If the Dec. 2020 corn futures price falls to $3, what is her return?



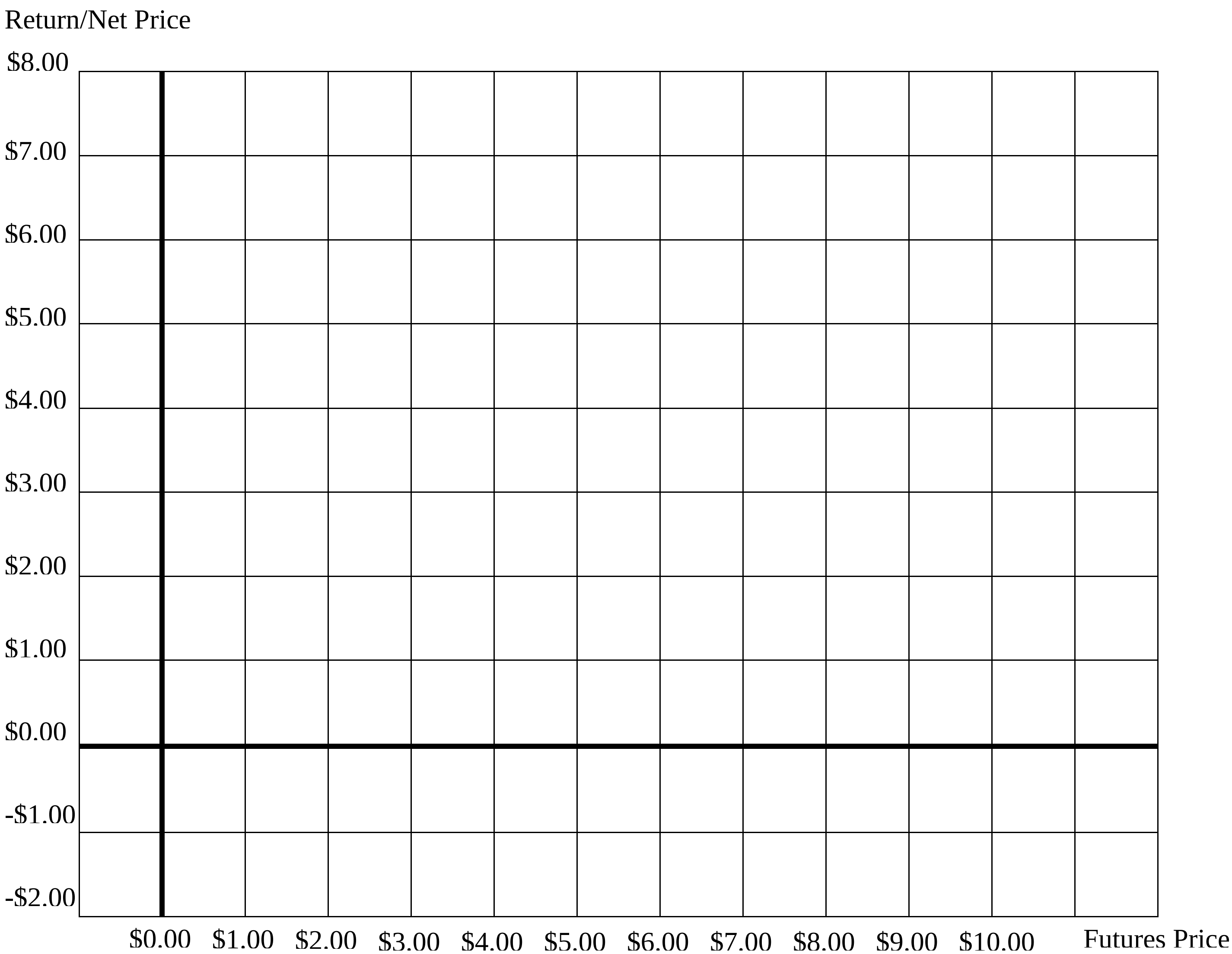
2. A hedger (producer) buys a $4.00 put option on Dec. 2020 corn futures. What is her floor price with the option in place? If the Dec. 2020 corn futures price falls to $3, what is her net price?



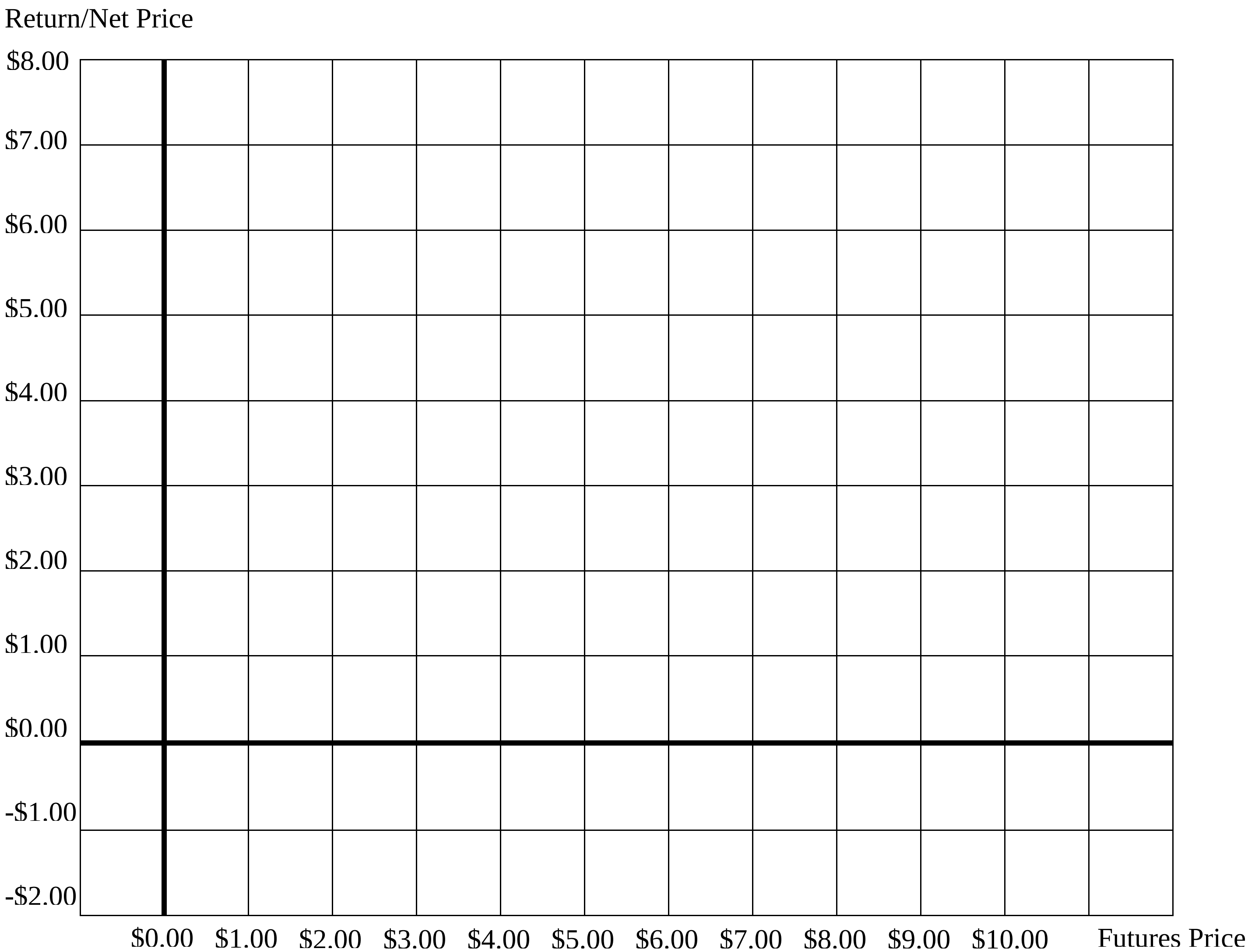
3. Instead of buying that $4.00 put option, the producer does a short hedge. What is her floor price with the short hedge in place? If the Dec. 2020 corn futures price falls to $3, what is her net price?



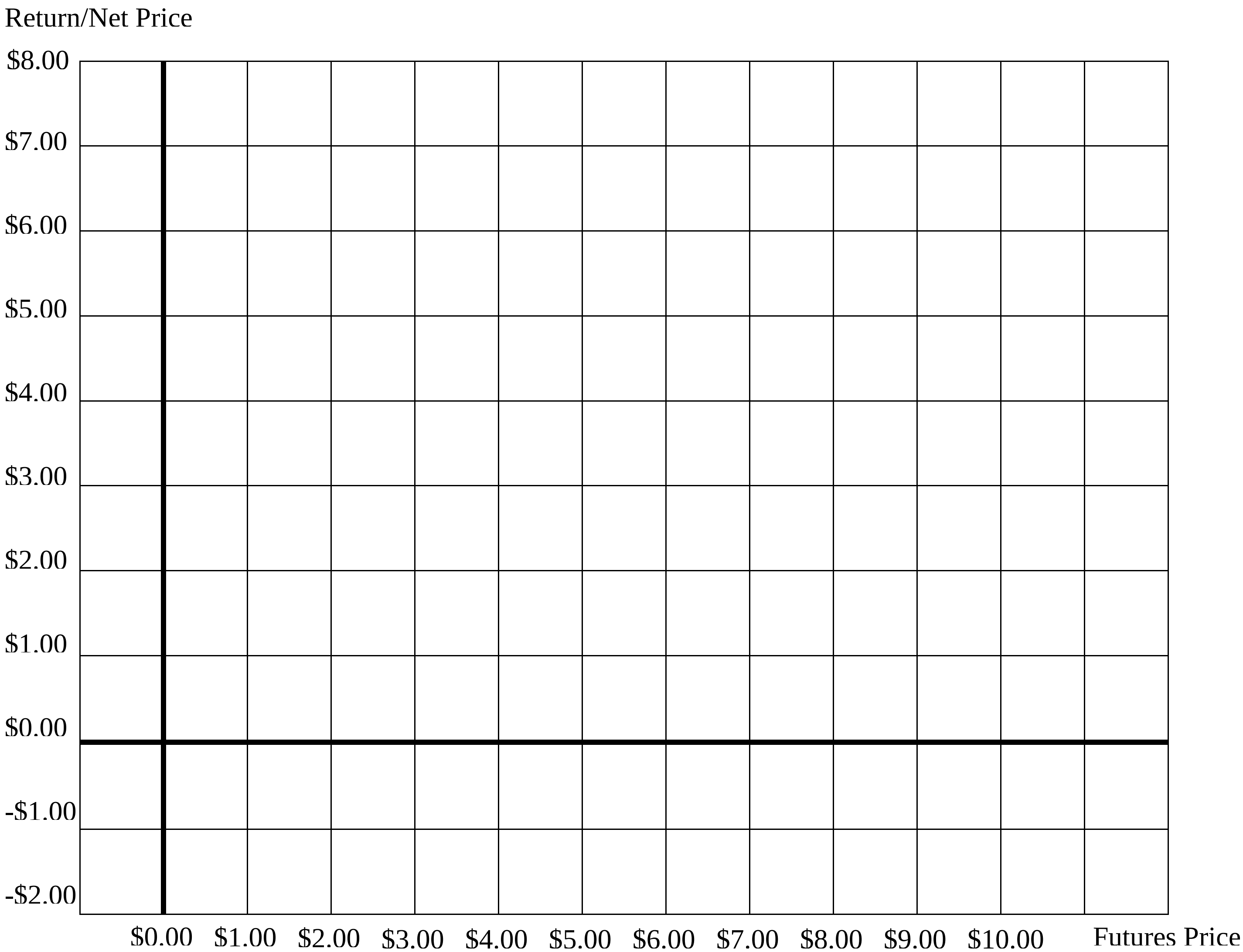
4. If the speculator in question 1 also sold a $5.00 call option on Dec. 2020 corn futures, does that change her breakeven price? If so, what is the new breakeven price?



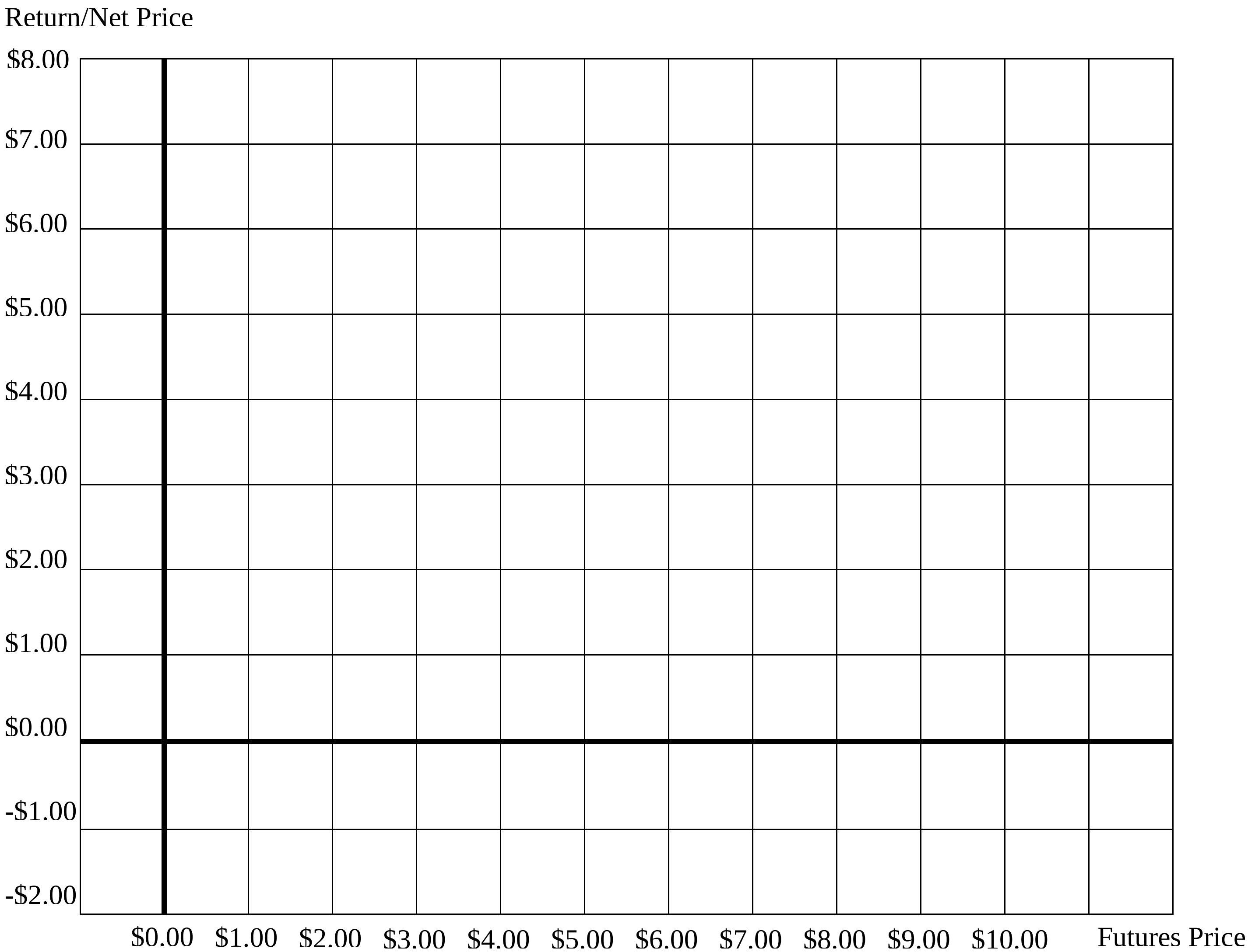
5. If the hedger in question 2 also sold a $5.00 call option on Dec. 2020 corn futures, does that change her floor price? If so, what is the new floor price?



6. A speculator buys a $4.00 call option on Dec. 2020 corn futures. What does she pay for the option? At what price does she breakeven? If the Dec. 2020 corn futures price falls to $3, what is her return? If the Dec. 2020 corn futures price rises to $5, what is her return?



7. A hedger (processor) buys a $4.00 call option on Dec. 2020 corn futures. What is her ceiling price with the option in place? If the Dec. 2020 corn futures price falls to $3, what is her net price?



All prices and premiums are listed in dollars per bushel

Dec. 2020 Corn
Futures 3.935
Price

Options	Strike Price	Premium	Options	Strike Price	Premium
Put	3.00	0.01000	Call	3.00	0.94000
Put	3.10	0.01500	Call	3.10	0.84375
Put	3.20	0.02125	Call	3.20	0.75125
Put	3.30	0.03125	Call	3.30	0.66250
Put	3.40	0.04750	Call	3.40	0.57750
Put	3.50	0.06875	Call	3.50	0.50000
Put	3.60	0.09750	Call	3.60	0.43000
Put	3.70	0.13500	Call	3.70	0.36625
Put	3.80	0.18125	Call	3.80	0.31500
Put	3.90	0.23500	Call	3.90	0.27000
Put	4.00	0.29375	Call	4.00	0.23000
Put	4.10	0.35875	Call	4.10	0.19500
Put	4.20	0.42875	Call	4.20	0.16625
Put	4.30	0.50500	Call	4.30	0.14250
Put	4.40	0.58375	Call	4.40	0.12250
Put	4.50	0.66500	Call	4.50	0.10500
Put	4.60	0.74875	Call	4.60	0.09000
Put	4.70	0.83500	Call	4.70	0.07625
Put	4.80	0.92375	Call	4.80	0.06500
Put	4.90	1.01375	Call	4.90	0.05625
Put	5.00	1.10625	Call	5.00	0.04875