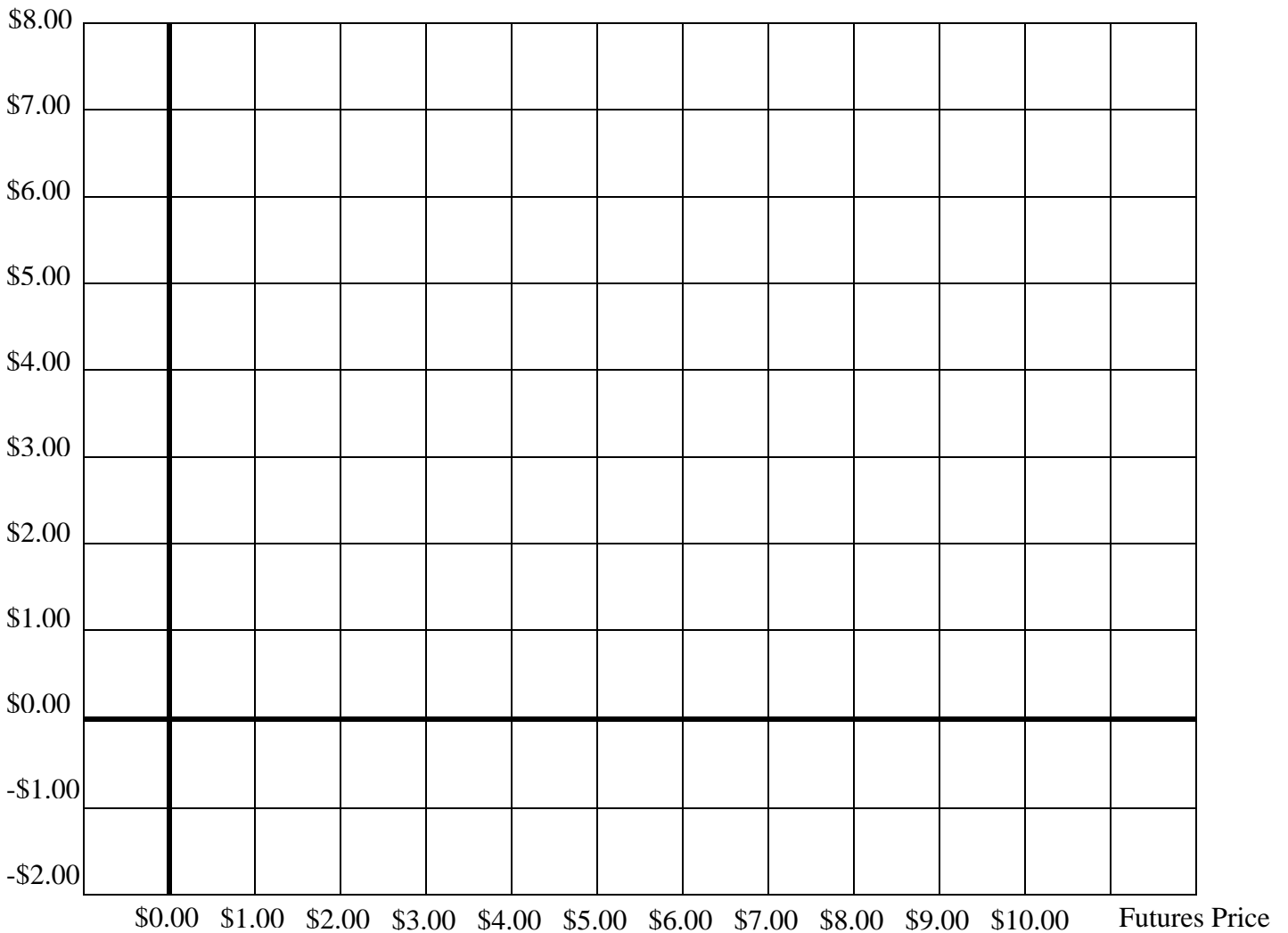


For the following questions use the attached futures and options data. Assume historical expected basis of $-\$0.25$ per bushel and a commission of $\$0.01$ per bushel for both crops.
Show the math and draw the graph.

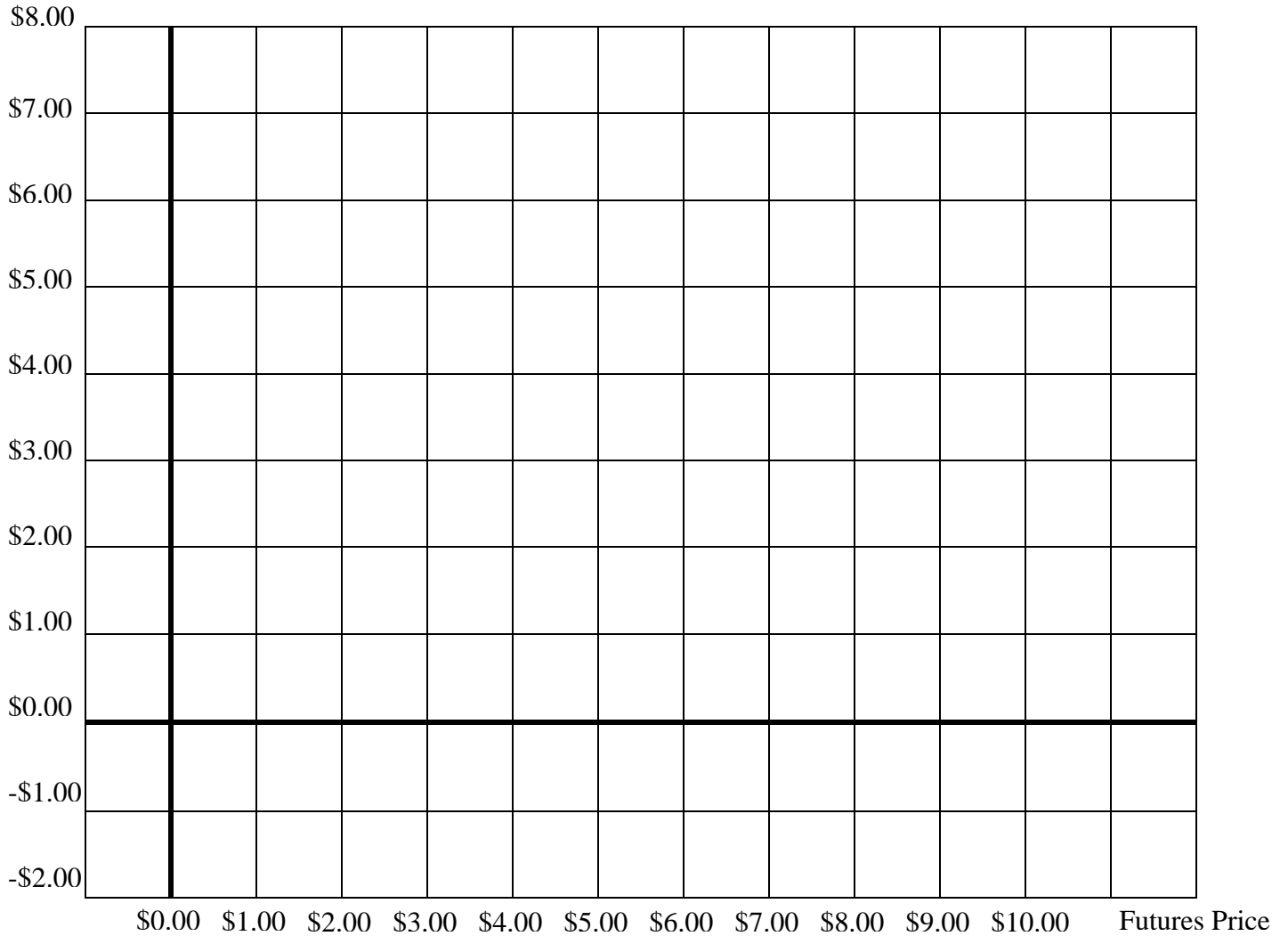
1. A speculator buys a $\$3.50$ put option on Dec. 2017 corn futures. What does she pay for the option? At what price does she breakeven (where her return is equal to zero)? If the Dec. 2017 corn futures price rises to $\$4$, what is her return?

Return/Net Price



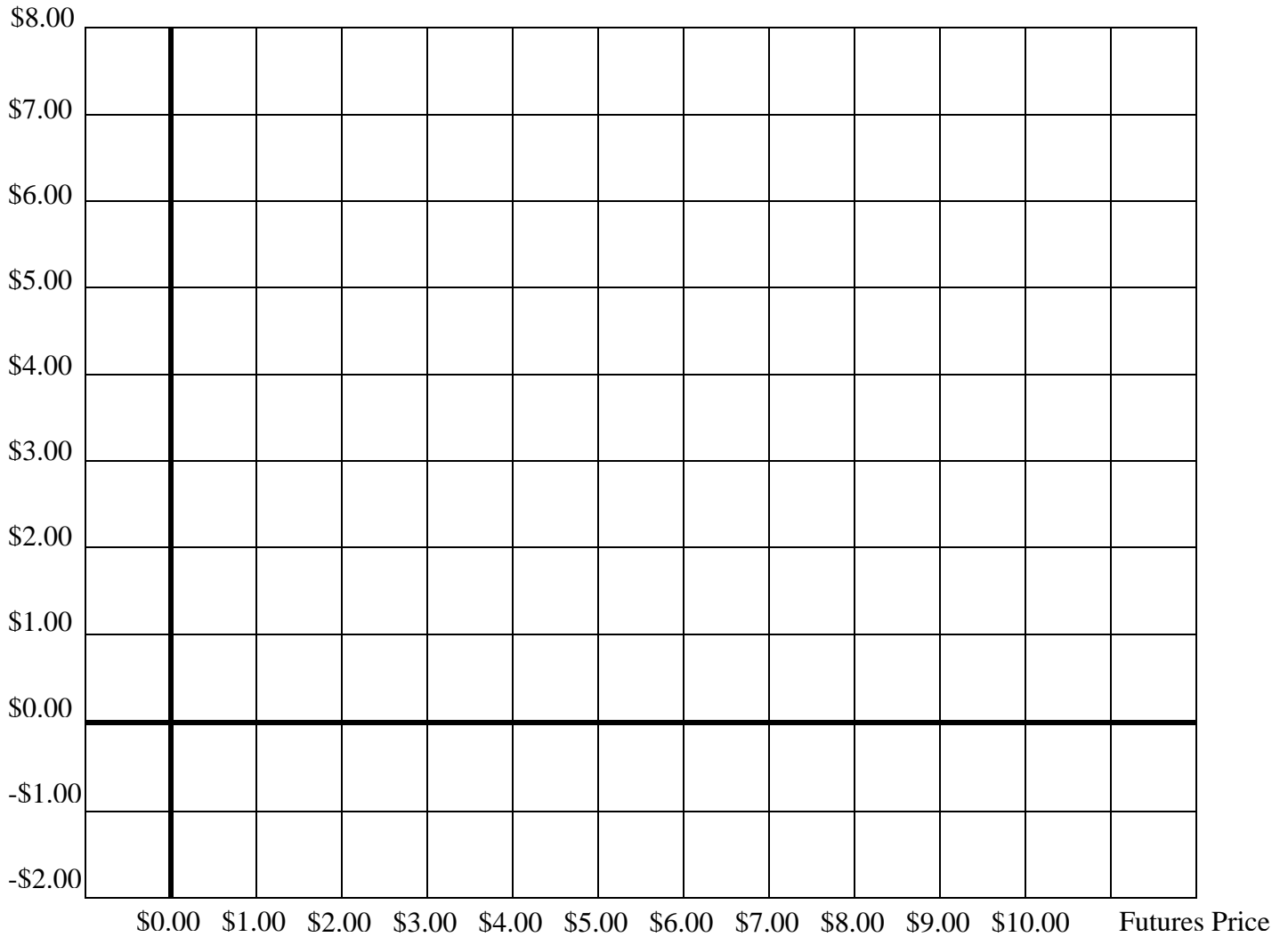
2. A hedger (producer) buys a \$3.50 put option on Dec. 2017 corn futures. What is her floor price with the option in place? If the Dec. 2017 corn futures price falls to \$3, what is her net price?

Return/Net Price



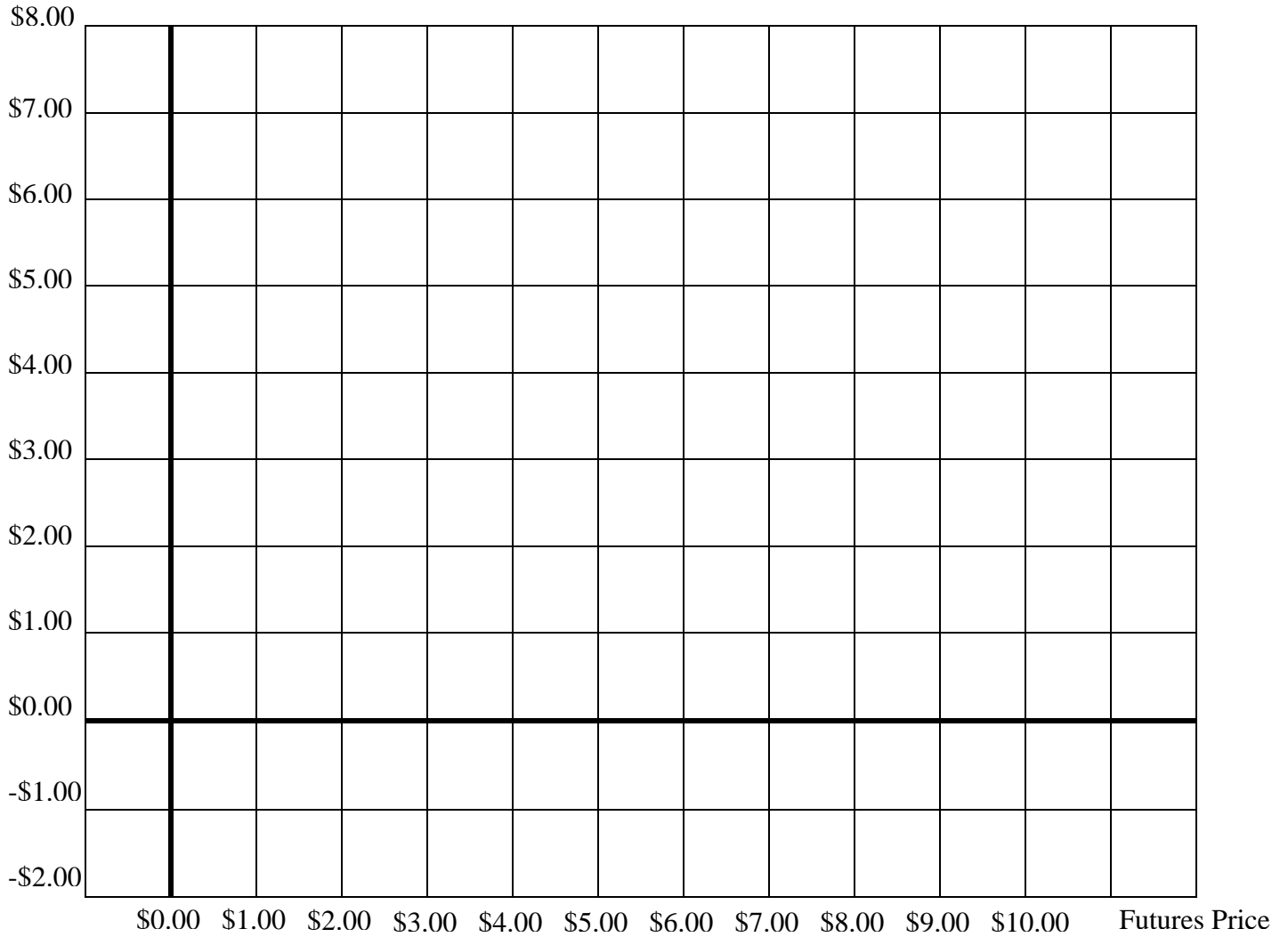
3. Instead of buying that \$3.50 put option, the producer does a short hedge. What is her floor price with the short hedge in place? If the Dec. 2017 corn futures price falls to \$3, what is her net price?

Return/Net Price



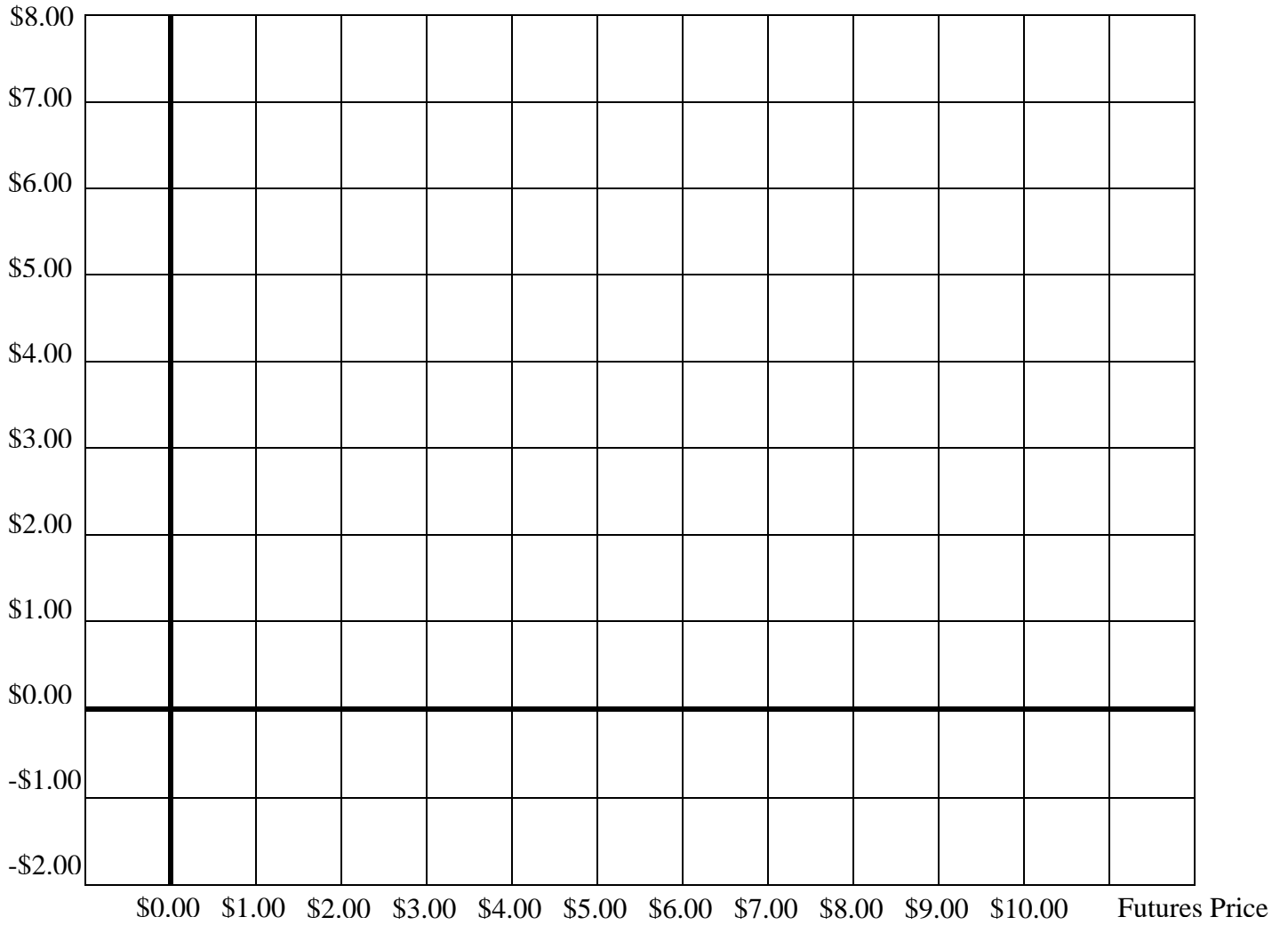
4. If the speculator in question 1 also sold a \$5.00 call option on Dec. 2017 corn futures, does that change her breakeven price? If so, what is the new breakeven price?

Return/Net Price



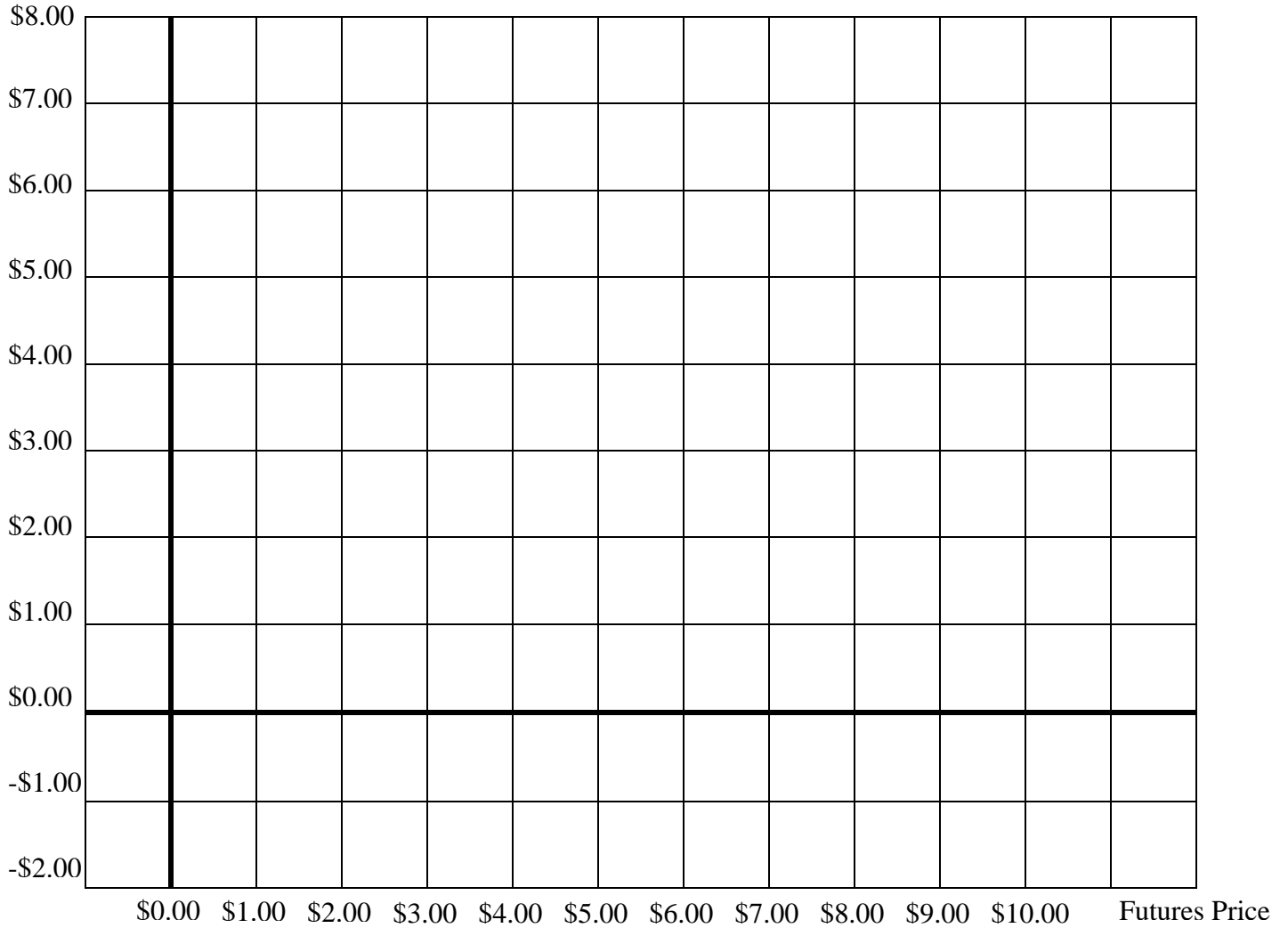
5. If the hedger in question 2 also sold a \$5.00 call option on Dec. 2017 corn futures, does that change her floor price? If so, what is the new floor price?

Return/Net Price



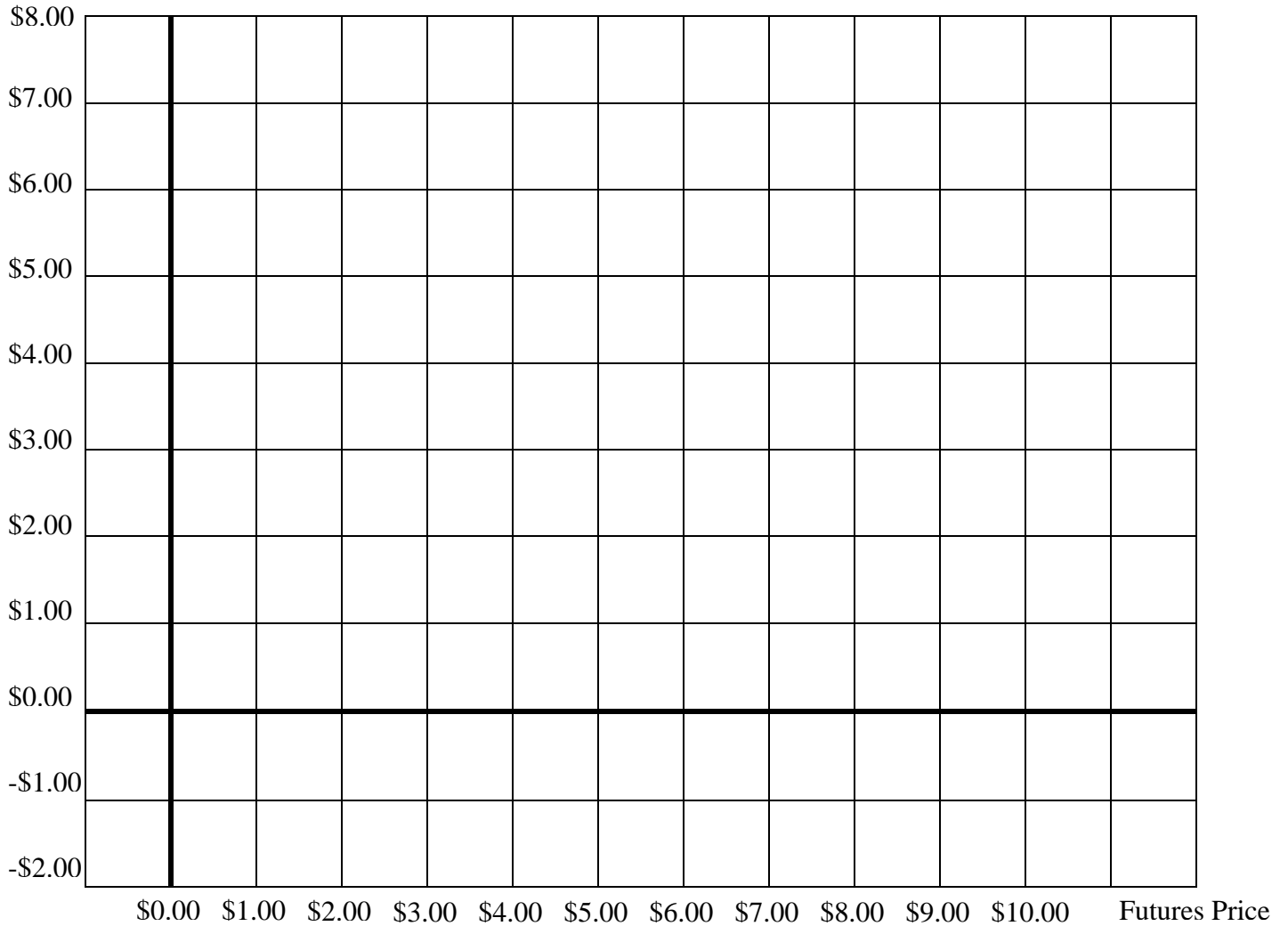
6. A speculator buys a \$4.00 call option on Dec. 2017 corn futures. What does she pay for the option? At what price does she breakeven? If the Dec. 2017 corn futures price falls to \$3.50, what is her return? If the Dec. 2017 corn futures price rises to \$4.50, what is her return?

Return/Net Price



7. A hedger (processor) buys a \$4.00 call option on Dec. 2017 corn futures. What is her ceiling price with the option in place? If the Dec. 2017 corn futures price falls to \$3.50, what is her net price?

Return/Net Price



All prices and premiums are listed in dollars per bushel

Dec. 2017 Corn

Futures 3.94

Price

Options	Strike Price	Premium	Options	Strike Price	Premium
Put	3.20	0.05	Call	3.20	0.78
Put	3.30	0.07	Call	3.30	0.70
Put	3.40	0.09	Call	3.40	0.63
Put	3.50	0.12	Call	3.50	0.56
Put	3.60	0.16	Call	3.60	0.50
Put	3.70	0.20	Call	3.70	0.44
Put	3.80	0.25	Call	3.80	0.39
Put	3.90	0.30	Call	3.90	0.34
Put	4.00	0.36	Call	4.00	0.30
Put	4.10	0.42	Call	4.10	0.26
Put	4.20	0.49	Call	4.20	0.23
Put	4.30	0.56	Call	4.30	0.20
Put	4.40	0.63	Call	4.40	0.18
Put	4.50	0.71	Call	4.50	0.16
Put	4.60	0.79	Call	4.60	0.14
Put	4.70	0.87	Call	4.70	0.12
Put	4.80	0.96	Call	4.80	0.10
Put	4.90	1.05	Call	4.90	0.09
Put	5.00	1.13	Call	5.00	0.08
Put	5.10	1.23	Call	5.10	0.07
Put	5.20	1.32	Call	5.20	0.06