Quiz B for 4:00 Class: 10/29/12 Name Key

Assume a firm has outstanding debt that matures for $500,000 five years from today.

a. A firm's stock can be viewed in terms of options. From this perspective, sketch a graph of the potential payoffs on the firm's stock and the specific payoffs to stockholders if the value of the firm's assets ends up equaling $400,000 or $700,000 five years from today. Clearly label and put a dot at each payoff.

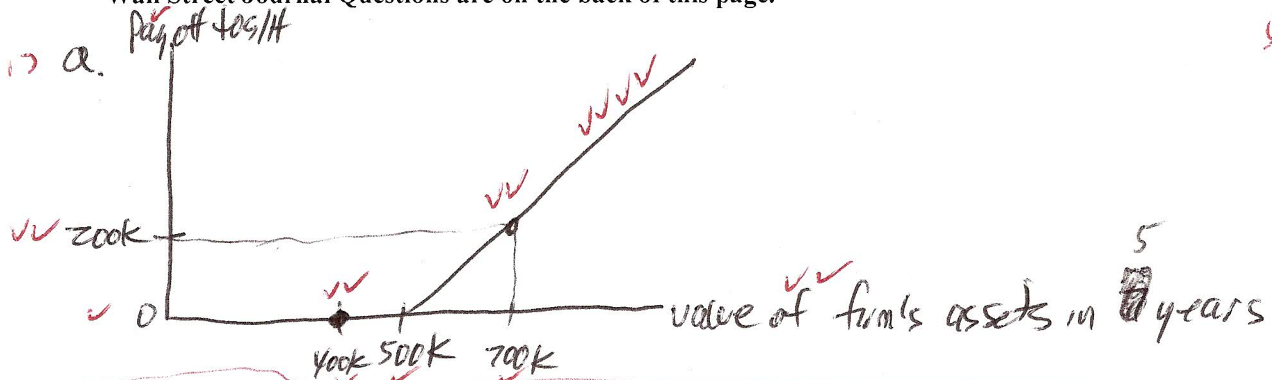
b. A firm's risky bonds can be viewed as a portfolio of options and owning the firm's assets. From this perspective sketch a graph of the potential payoffs on the firm's bonds and the specific payoffs to bondholders if the value of the firm's assets ends up equaling $400,000 or $700,000 five years from today. Be sure to show the payoffs from the firm's assets, the options, and the combined payoff that equals the payoff on the risky bonds. Clearly label and put a dot at each specific payoff.

c. Explain in terms of options and owning the firm's assets how an increase in the volatility of the firm's assets affects the value of the firm's outstanding stocks and bonds.

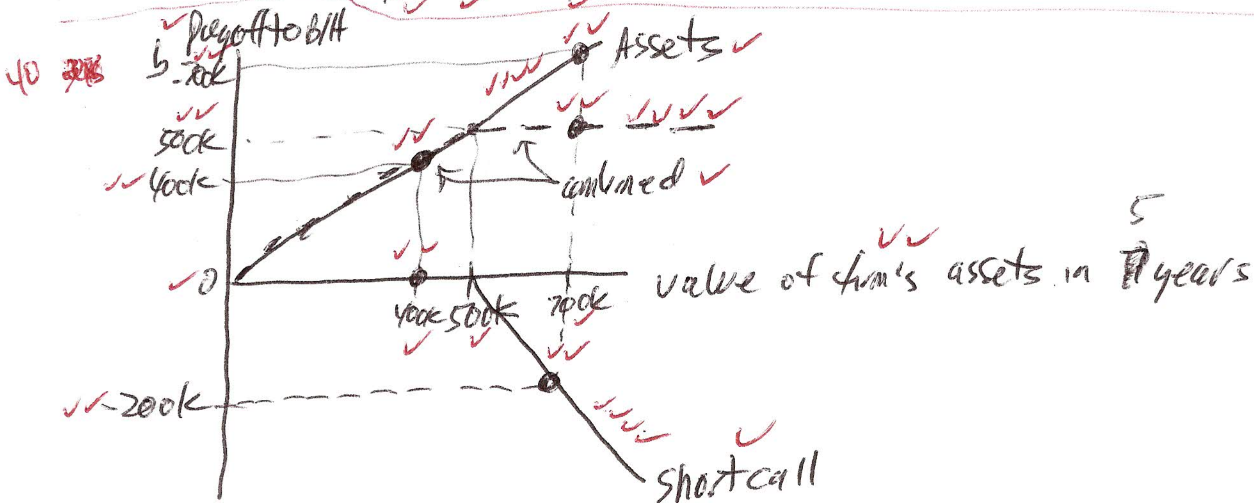
Wall Street Journal Questions are on the back of this page.

55 = 75
53 = 72
49 = 67
43 = 59
42 = 57
38 = 52
32 = 44
13 = 24
5 = 20

a.



b.



c. value of stock = call
⇒ as volatility rises, value of a call rises
value of risky bond = Assets − call
⇒ as volatility rises, value of call rises
⇒ value of bond falls