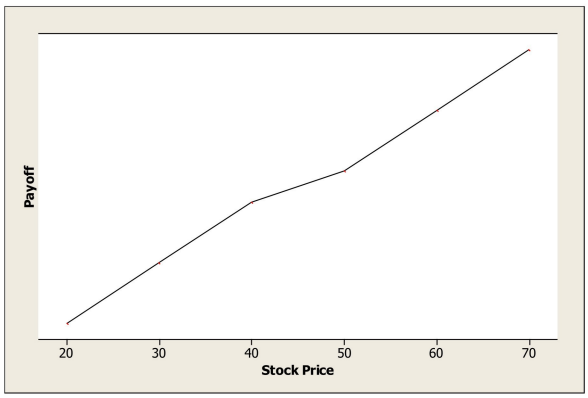
59.

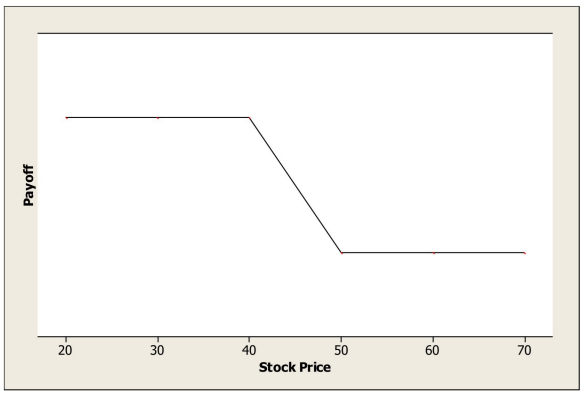
An investor has a long position in a non-dividend-paying stock, and additionally, has a long collar on this stock consisting of a 40-strike put and 50-strike call.

Determine which of these graphs represents the payoff diagram for the overall position at the time of expiration of the options.

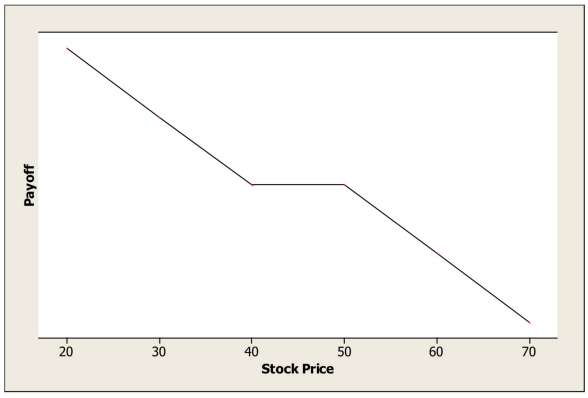
(A)



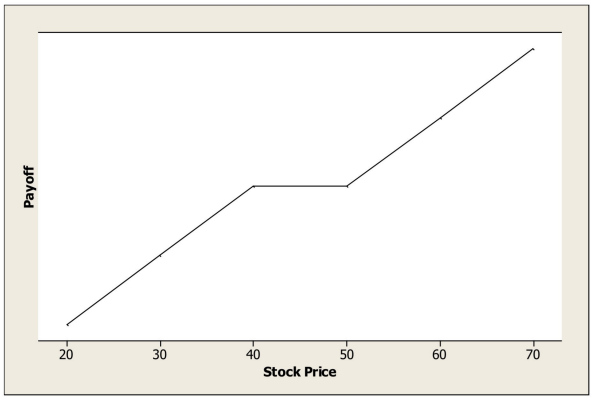
(B)



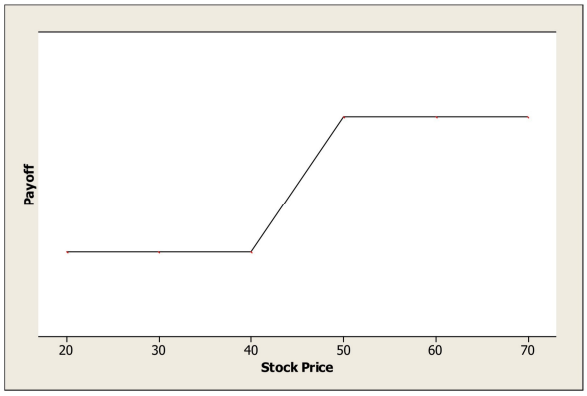
(C)



(D)



(E)



60.

38.

The current price of a medical company's stock is 75. The expected value of the stock price in three years is 90 per share. The stock pays no dividends.

You are also given

i) The risk-free interest rate is positive.

ii) There are no transaction costs.

iii) Investors require compensation for risk.

The price of a three-year forward on a share of this stock is X, and at this price an investor is willing to enter into the forward.

Determine what can be concluded about X.

(A) $X < 75$

(B) $X = 75$

(C) $75 < X < 90$

(D) $X = 90$

(E) $90 < X$

39.

Determine which of the following strategies creates a ratio spread, assuming all options are European.

(A) Buy a one-year call, and sell a three-year call with the same strike price.

(B) Buy a one-year call, and sell a three-year call with a different strike price.

(C) Buy a one-year call, and buy three one-year calls with a different strike price.

(D) Buy a one-year call, and sell three one-year puts with a different strike price.

(E) Buy a one-year call, and sell three one-year calls with a different strike price.

53.

For each ton of a certain type of rice commodity, the four-year forward price is 300. A four-year 400-strike European call option costs 110.

The continuously compounded risk-free interest rate is 6.5%.

Calculate the cost of a four-year 400-strike European put option for this rice commodity.

(A) 10.00

(B) 32.89

(C) 118.42

(D) 187.11

(E) 210.00

54.

DELETED

55.

Box spreads are used to guarantee a fixed cash flow in the future. Thus, they are purely a means of borrowing or lending money, and have no stock price risk.

Consider a box spread based on two distinct strike prices (K, L) that is used to lend money, so that there is a positive cost to this transaction up front, but a guaranteed positive payoff at expiration.

Determine which of the following sets of transactions is equivalent to this type of box spread.

(A) A long position in a (K, L) bull spread using calls and a long position in a (K, L) bear spread using puts.

(B) A long position in a (K, L) bull spread using calls and a short position in a (K, L) bear spread using puts.

(C) A long position in a (K, L) bull spread using calls and a long position in a (K, L) bull spread using puts.

(D) A short position in a (K, L) bull spread using calls and a short position in a (K, L) bear spread using puts.

(E) A short position in a (K, L) bull spread using calls and a short position in a(K, L) bull spread using puts.