

Series 7 Top-Off Exam Options Worksheet

This Worksheet provides additional practice questions and detailed explanations for the types of options calculations tested on the Series 7 Top-Off examination. It is designed to be completed after reading the textbook and either attending live classroom training or watching our online lessons. Overall, candidates should expect 10 – 15 total options questions on the Series 7 Top-Off exam.

Note, if you require a review of basic options positions, make sure to watch and take notes on the SIE options videos and download the SIE Options Worksheet (located in Series 7 Top-Off supplements section of the Knopman Marks Training Center).

Contents

Option Spread Problems – Call Spreads	2
Option Spread Solutions – Call Spreads	3
Option Spread Problems – Call Spreads with No Premiums	5
Option Spread Solutions – Call Spreads with No Premiums	6
Option Spread Problems – Put Spreads	9
Option Spread Solutions – Put Spreads	10
Option Spread Problems – Put Spreads with No Premiums	12
Option Spread Solutions – Put Spreads with No Premiums	13
Option Straddle Problems	16
Option Straddle Solutions	17

Option Spread Problems – Call Spreads

For each problem, determine the following:

- 1) Investor attitude
- 2) Whether the position is a debit or credit spread
- 3) If the investor wants the spread to widen or narrow
- 4) Maximum gain and maximum loss
- 5) Breakeven point

Problem #1	Buy 1 ABC Jan 35 Call @ 4 Sell 1 ABC Jan 45 Call @ 2
Attitude:	
Debit or Credit:	
Widen or Narrow:	
Max Loss:	
Max Gain:	
Breakeven Point:	
Problem #2	Buy 3 XYZ Mar 50 Calls @ 3 Sell 3 XYZ Mar 40 Calls @ 6
Attitude:	
Debit or Credit:	
Widen or Narrow:	
Max Loss:	
Max Gain:	
Breakeven Point:	

Option Spread Solutions – Call Spreads

Problem #1	Buy 1 ABC Jan 35 Call @ 4 Sell 1 ABC Jan 45 Call @ 2
Attitude: Bullish	
Debit or Credit: Debit	
Widen or Narrow: Widen	
Max Loss: \$200	
Max Gain: \$800	
Breakeven Point: \$37	

ATTITUDE: The attitude is based on the “dominant” position, which is always the option with the higher premium. Because the Jan 35 call has the higher premium, it is the dominant leg. Since buying calls is dominant, the investor is bullish (buying calls is bullish). Note that all spreads are considered moderate positions as the investor has limited his upside by selling the Jan 45 call. Thus, the investor is moderately bullish.

DEBIT OR CREDIT: In this example, the investor is paying out a net premium of \$2 per share (he is paying \$4 to buy the Jan 35 call and receiving \$2 for selling the Jan 45 call). Whenever an investor pays out net premiums, it is a debit spread.

WIDEN OR NARROW: Investors always want a debit spread to widen. Because the investor initially paid a \$2 debit, if he were to liquidate the positions he would need to earn a net premium of more than \$2 to profit when he closes the position. For example, if he earned a net credit of \$3 when he closed the position, he would earn a \$1 profit (\$3 closing credit minus \$2 opening debit). If this occurs, the spread is said to have widened because he earned more than what he initially paid.

MAXIMUM GAINS & LOSSES: Because the investor is bullish, the worst-case scenario is that the market value falls to zero. At a market value of zero, both calls expire (remember calls expire when the market value is below the strike price) and the investor will lose the net premium of \$2 per share or \$200. The maximum loss on a debit spread is the net debit.

For a debit spread, the maximum gain is the difference between the two strike prices, minus the net debit. Regardless of how high the stock goes; the investor always has the right to purchase the stock at the strike price of \$35 but will be obligated to sell at the strike price of \$45. Therefore, the investor can make the difference of \$10 per share, minus the \$2 debit he paid, for an overall gain of \$8 per share or \$800.

BREAKEVEN: Breakeven is based on the dominant position. Because the investor paid a \$2 debit, he needs to earn \$2 on the Jan 35 call, which occurs if the price increases to \$37. At a market value of \$37, the \$2 gain on the Jan 35 call offsets the \$2 debit that

was paid. One helpful way to remember the breakeven point is to “call up” from the dominant position, meaning add the net premium to the strike price of the dominant position (subtract for puts).

Problem #2	Buy 3 XYZ Mar 50 Calls @ 3 Sell 3 XYZ Mar 40 Calls @ 6
Attitude: Bearish	
Debit or Credit: Credit	
Widen or Narrow: Narrow	
Max Gain: \$900	
Max Loss: \$2,100	
Breakeven Point: \$43	

ATTITUDE: The attitude is based on the “dominant” position, which is always the option with the higher premium. Because the Mar 40 call has the higher premium, it is the dominant leg. Since selling calls is dominant, the investor is bearish (selling calls is bearish). Note that all spreads are considered moderate positions as the investor has limited his downside by buying the Jan 50 call. Thus, the investor is moderately bearish.

DEBIT OR CREDIT: In this example, the investor is receiving a net premium of \$3 per share (she is paying \$3 to buy the Mar 50 call and receiving \$6 for selling the Mar 40 call). Whenever an investor receives net premiums, it is a credit spread.

WIDEN OR NARROW: Investors always want a credit spread to narrow. Because the investor initially earned a \$3 credit, if she were to liquidate the positions she would need to pay a net premium of less than \$3 to profit when she closes the position. For example, if she paid a net debit of \$1 when she closed the position, she would earn a \$2 profit (\$3 opening credit minus \$1 closing debit). If this occurs, the spread is said to have narrowed because she closed the position for less than what was initially received.

MAXIMUM GAINS & LOSSES: Because the investor is bearish, the best-case scenario is that the market value falls to zero. At a market value of zero, both calls expire (remember calls expire when the market value is below the strike price) and the investor will earn the net premium of \$3 per share, \$300 per contract, or \$900 total (3 contracts). The maximum gain on a credit spread is the net credit.

For a credit spread, the maximum loss is the difference between the two strike prices, minus the net credit received. Regardless of how high the stock goes; the investor always has the obligation to sell the stock at the strike price of \$40, but the right to buy it back at the strike price of \$50. Therefore, the investor can only lose the difference of \$10 per share, minus the \$3 credit she earned, for an overall loss of \$7 per share, \$700 per contract, or \$2,100 total (3 contracts).

BREAKEVEN: Breakeven is based on the dominant position. Because the investor earned a \$3 credit, she can afford to lose \$3 on Mar 40 call. At a market value of 43, the \$3 loss on the Mar 40 call is offset by the \$3 credit that was received. One helpful way to remember the breakeven point is to “call up” from the dominant position, meaning add the net premium to the strike price of the dominant position (subtract for puts).

Option Spread Problems – Call Spreads with No Premiums

For each problem, determine the following:

- 1) The dominant position
- 2) Investor attitude
- 3) Whether the position is a debit or credit spread
- 4) If the investor wants the spread to widen or narrow

Problem #1	Sell 1 HMK Oct 70 Call Buy 1 HMK Oct 60 Call
Dominant Position:	
Attitude:	
Debit or Credit:	
Widen or Narrow:	
Problem #2	Buy 1 LBK Apr 40 Call Sell 1 LBK Apr 35 Call
Dominant Position:	
Attitude:	
Debit or Credit:	
Widen or Narrow:	
Problem #3	Buy 1 XYZ Apr 30 Call Sell 1 XYZ Mar 30 Call
Dominant Position:	
Attitude:	
Debit or Credit:	
Widen or Narrow:	

Option Spread Solutions – Call Spreads with No Premiums

Problem #1	Sell 1 HMK Oct 70 Call Buy 1 HMK Oct 60 Call
Dominant Position: Oct 60 Call	
Attitude: Bullish	
Debit or Credit: Debit	
Widen or Narrow: Widen	

DOMINANT POSITION: The dominant position is always the option with the higher premium. When not provided the premiums, the dominant position can be determined based on the strike prices. For call options, the option with the lower strike price is always dominant. In this example, because the Oct 60 call has the lower strike, it is the dominant position.

ATTITUDE: The attitude of the investor is based on the dominant position. Because the Oct 60 call is the dominant position the investor is bullish (buying calls is bullish). Note that all spreads are considered moderate positions as the investor has limited his upside by selling the Oct 70 call. Thus, the investor is moderately bullish.

DEBIT OR CREDIT: The dominant position will always have the higher premium. Because the investor is purchasing the dominant position, it is a debit spread as the Oct 60 call (which the investor is buying) will be more expensive than the Oct 70 call (which the investor is selling). Remember, whenever the investor buys the dominant leg, it is a debit spread.

WIDEN OR NARROW: Investors always want a debit spread to widen. Because the investor initially made a payment in the transaction (debit), he needs to earn a larger net premium when he closes the position. In other words, if the investor initially paid a debit of \$2 per share, he would need to earn more than \$2 per share when closing the position in order to profit. If this occurs, the spread is said to have widened because he would earn more premiums than what he initially paid.

Problem #2	Buy 1 LBK Apr 40 Call Sell 1 LBK Apr 35 Call
Dominant Position: Apr 35 Call	
Attitude: Bearish	
Debit or Credit: Credit	
Widen or Narrow: Narrow	

DOMINANT POSITION: The dominant position is always the option with the higher premium. When not provided the premiums, the dominant position can be determined based on the strike prices. For call options, the option with the lower strike price is always dominant. In this example, because the Apr 35 call has the lower strike, it is the dominant position.

ATTITUDE: The attitude of the investor is based on the dominant position. Because the Apr 35 call is the dominant position the investor is bearish (selling calls is bearish). Note that all spreads are considered moderate positions as the investor has limited her downside by purchasing the Oct 40 call. Thus, the investor is moderately bearish.

DEBIT OR CREDIT: The dominant position will always have the higher premium. Because the investor is selling the dominant position, it is a credit spread as the Apr 35 call (which the investor is selling) will be more expensive than the Apr 40 call (which the investor is buying). Remember, whenever the investor sells the dominant leg, it is a credit spread.

WIDEN OR NARROW: Investors always want a credit spread to narrow. Because the investor initially earned a credit in the transaction, she needs to pay a smaller net premium when she closes the position. In other words, if the investor initially earned a credit of \$3 per share, she would need to pay less than \$3 per share when closing the position in order to profit. If this occurs, the spread is said to have narrowed because she would pay less premiums than what she initially earned.

Problem #3	Buy 1 XYZ Apr 30 Call Sell 1 XYZ Mar 30 Call
Dominant Position: Apr 30 Call	
Attitude: Bullish	
Debit or Credit: Debit	
Widen or Narrow: Widen	

DOMINANT POSITION: The dominant position is always the option with the higher premium. When not provided the premiums, the dominant position can typically be determined based on the strike prices. For call options, the option with the lower strike price is always dominant. However, in this example the strike prices are the same and the only difference between the options is the expiration month (referred to as a calendar or horizontal spread). For a calendar spread, the option with the later expiration will always be the dominant position because it will have more time value. Therefore, the Apr 30 call is dominant.

ATTITUDE: The attitude of the investor is based on the dominant position. Because the Apr 30 call is the dominant position, the investor is bullish (buying calls is bullish). Note that all spreads are considered moderate positions as the investor has limited his upside by selling the Mar 30 call. Thus, the investor is moderately bullish.

DEBIT OR CREDIT: The dominant position will always have the higher premium. Because the investor is purchasing the dominant position, it is a debit spread as the Apr 30 call (which the investor is buying) will be more expensive than the Mar 30 call (which the investor is selling). Remember, whenever the investor buys the dominant leg, it is a debit spread.

WIDEN OR NARROW: Investors always want a debit spread to widen. Because the investor initially paid a debit in the transaction, he needs to earn a larger net premium when he closes the position. In other words, if the investor initially paid a debit of \$5 per share, he would need to earn more than \$5 per share when closing the position in order to profit. If this occurs, the spread is said to have widened because he would earn more premiums than what he initially paid.

Option Spread Problems – Put Spreads

For each problem, determine the following:

- 1) Investor attitude
- 2) Whether the position is a debit or credit spread
- 3) If the investor wants the spread to widen or narrow
- 4) Maximum gain and maximum loss
- 5) Breakeven point

Problem #1	Buy 1 ABC Sep 50 Put @ 6 Sell 1 ABC Sep 40 Put @ 3
Attitude:	
Debit or Credit:	
Widen or Narrow:	
Max Gain:	
Max Loss:	
Breakeven Point:	
Problem #2	Sell 4 XYZ Oct 35 Puts @ 4 Buy 4 XYZ Oct 30 Puts @ 2
Attitude:	
Debit or Credit:	
Widen or Narrow:	
Max Gain:	
Max Loss:	
Breakeven Point:	

Option Spread Solutions – Put Spreads

Problem #1	Buy 1 ABC Sep 50 Put @ 6 Sell 1 ABC Sep 40 Put @ 3
Attitude: Bearish	
Debit or Credit: Debit	
Widen or Narrow: Widen	
Max Gain: \$700	
Max Loss: \$300	
Breakeven Point: \$47	

ATTITUDE: The attitude is based on the “dominant” position, which is always the option with the higher premium. Because the Sep 50 put has the higher premium, it is the dominant leg. Since buying puts is dominant, the investor is bearish (buying puts is bearish). Note that all spreads are considered moderate positions as the investor has capped his profit by selling the Sep 40 put. Thus, the investor is moderately bearish.

DEBIT OR CREDIT: In this example, the investor is paying out a net premium of \$3 per share (he is paying \$6 to buy the Sep 50 put and receiving \$3 for selling the Sep 40 put). Whenever an investor pays out net premiums, it is a debit spread.

WIDEN OR NARROW: Investors always want a debit spread to widen. Because the investor initially paid a \$3 debit, if he were to liquidate the positions he would need to earn a net premium of more than \$3 to profit when he closed the position. For example, if he earned a net credit of \$4 when he closed the position, he would earn a \$1 profit (\$4 closing credit minus \$3 opening debit). If this occurs, the spread is said to have widened because he earned more than what he initially paid.

MAXIMUM GAINS & LOSSES: For a debit spread, the maximum gain is the difference between the two strike prices, minus the net debit. Regardless of how low the stock falls, the investor always has the right to sell the stock at the strike price of \$50 but will be obligated to purchase the shares at the strike price of \$40. Therefore, the investor can make the difference of \$10 per share, minus the \$3 debit he paid, for an overall gain of \$7 per share or \$700.

Because the investor is bearish, the worst-case scenario is that the market value increases. As the market value increases above both strike prices, both puts expire (remember puts expire when the market value is above the strike price) and the investor will lose the net premium of \$3 per share or \$300. The maximum loss on a debit spread is the net debit.

BREAKEVEN: Breakeven is based on the dominant position. Because the investor paid a \$3 debit, he needs to earn \$3 on the Sep 50 put, which occurs if the price falls to \$47. At a market value of \$47, the \$3 gain on the Sep 50 put offsets the \$3 debit that was paid. One helpful way to remember the breakeven point is to “put down” from the dominant position, meaning subtract the net premium from the strike price of the dominant position (add for calls).

Problem #2	Sell 4 XYZ Oct 35 Puts @ 4 Buy 4 XYZ Oct 30 Puts @ 2
Attitude: Bullish	
Debit or Credit: Credit	
Widen or Narrow: Narrow	
Max Gain: \$800	
Max Loss: \$1,200	
Breakeven Point: \$33	

ATTITUDE: The attitude is based on the “dominant” position, which is always the option with the higher premium. Because the Oct 35 put has the higher premium, it is the dominant leg. Since selling puts is dominant, the investor is bullish (selling puts is bullish). Note that all spreads are considered moderate positions as the investor has limited her risk by purchasing the Oct 30 put. Thus, the investor is moderately bullish.

DEBIT OR CREDIT: In this example, the investor is receiving a net premium of \$2 per share (she is paying \$2 to buy the Oct 30 put and receiving \$4 for selling the Oct 35 put). Whenever an investor receives net premiums, it is a credit spread.

WIDEN OR NARROW: Investors always want a credit spread to narrow. Because the investor initially earned a \$2 credit, if she were to liquidate the positions she would need to pay a net premium of less than \$2 to profit when she closed the position. For example, if she paid a net debit of \$1 when she closed the position, she would earn a \$1 profit (\$2 opening credit minus \$1 closing debit). If this occurs, the spread is said to have narrowed because she closed the position for less than what was initially received.

MAXIMUM GAINS & LOSSES: Because the investor is bullish, the best-case scenario is that the market value rises. As the market value rises above the strike prices, both puts expire (remember puts expire when the market value is above the strike price) and the investor will earn the net premium of \$2 per share, \$200 per contract, or \$800 total (4 contracts). The maximum gain on a credit spread is the net credit.

For a credit spread, the maximum loss is the difference between the two strike prices, minus the net credit received. Regardless of how low the stock falls, the investor always has the obligation to buy the stock at the strike price of \$35, but the right to sell it back

at the strike price of \$30. Therefore, the investor can only lose the difference of \$5 per share, minus the \$2 credit she earned, for an overall loss of \$3 per share, \$300 per contract, or \$1,200 total (4 contracts).

BREAKEVEN: Breakeven is based on the dominant position. Because the investor earned a \$2 credit, she can afford to lose \$2 on Oct 35 put. At a market value of \$33, the \$2 loss on the Oct 35 put is offset by the \$2 credit that was received. One helpful way to remember the breakeven point is to “put down” the dominant position, meaning subtract the net premium from the strike price of the dominant position (add for calls).

Option Spread Problems – Put Spreads with No Premiums

For each problem, determine the following:

- 1) The dominant position
- 2) Investor attitude
- 3) Whether the position is a debit or credit spread
- 4) If the investor wants the spread to widen or narrow

Problem #1	Buy 3 ABC May 80 Puts Sell 3 ABC May 85 Puts
Dominant Position:	
Attitude:	
Debit or Credit:	
Widen or Narrow:	
Problem #2	Sell 10 JLK Oct 45 Puts Buy 10 JLK Oct 50 Puts
Dominant Position:	
Attitude:	
Debit or Credit:	
Widen or Narrow:	
Problem #3	Sell 1 XYZ Dec 50 Put Buy 1 XYZ Oct 50 Put
Dominant Position:	
Attitude:	
Debit or Credit:	
Widen or Narrow:	

Option Spread Solutions – Put Spreads with No Premiums

Problem #1	Buy 3 ABC May 80 Puts Sell 3 ABC May 85 Puts
Dominant Position: May 85 Put	
Attitude: Bullish	
Debit or Credit: Credit	
Widen or Narrow: Narrow	

DOMINANT POSITION: The dominant position is always the option with the higher premium. When not provided the premiums, the dominant position can be determined based on the strike prices. For put options, the option with the higher strike price is always dominant. In this example, because the May 85 put has the higher strike, it is the dominant position.

ATTITUDE: The attitude of the investor is based on the dominant position. Because the May 85 put is the dominant position, the investor is bullish (selling puts is bullish). Note that all spreads are considered moderate positions as the investor has limited her risk by purchasing the May 80 put. Thus, the investor is moderately bullish.

DEBIT OR CREDIT: The dominant position will always have the higher premium. Because the investor is selling the dominant position, it is a credit spread as the May 85 puts (which the investor is selling) will be more expensive than the May 80 puts (which the investor is buying). Remember, whenever the investor sells the dominant leg, it is a credit spread.

WIDEN OR NARROW: Investors always want a credit spread to narrow. Because the investor initially earned a credit in the transaction, she needs to pay a smaller net premium when she closes the position. In other words, if the investor initially earned a credit of \$3 per share, she would need to pay less than \$3 per share when closing the position to profit. If this occurs, the spread is said to have narrowed because she would pay less in premiums than what she initially earned.

Problem #2	Sell 10 JLK Oct 45 Puts Buy 10 JLK Oct 50 Puts
Dominant Position: Oct 50 Put	
Attitude: Bearish	
Debit or Credit: Debit	
Widen or Narrow: Widen	

DOMINANT POSITION: The dominant position is always the option with the higher premium. When not provided the premiums, the dominant position can be determined based on the strike prices. For put options, the option with the higher strike price is always dominant. In this example, because the Oct 50 put has the higher strike, it is the dominant position.

ATTITUDE: The attitude of the investor is based on the dominant position. Because the Oct 50 put is the dominant position the investor is bearish (buying puts is bearish). Note that all spreads are considered moderate positions as the investor has limited his profit potential by selling the Oct 45 put. Thus, the investor is moderately bearish.

DEBIT OR CREDIT: The dominant position will always have the higher premium. Because the investor is purchasing the dominant position, it is a debit spread as the Oct 50 put (which the investor is buying) will be more expensive than the Oct 45 put (which the investor is selling). Remember, whenever the investor buys the dominant leg, it is a debit spread.

WIDEN OR NARROW: Investors always want a debit spread to widen. Because the investor initially paid a debit in the transaction, he needs to earn a larger net premium when he closes the position. In other words, if the investor initially paid a debit of \$2 per share, he would need to earn more than \$2 per share when closing the position to profit. If this occurs, the spread is said to have widened because he would earn more premiums than what he initially paid.

Problem #3	Sell 1 XYZ Dec 50 Put Buy 1 XYZ Oct 50 Put
Dominant Position: Dec 50 Put	
Attitude: Bullish	
Debit or Credit: Credit	
Widen or Narrow: Narrow	

DOMINANT POSITION: The dominant position is always the option with the higher premium. When not provided the premiums, the dominant position can typically be determined based on the strike prices. For put options, the option with the higher strike price is always dominant. However, in this example the strike prices are the same and the only difference between the options is the expiration month (referred to as a calendar or horizontal spread). For a calendar spread, the option with the later expiration will always be the dominant position because it will have more time value. Therefore, the Dec 50 put is dominant.

ATTITUDE: The attitude of the investor is based on the dominant position. Because the Dec 50 put is the dominant position the investor is bullish (selling puts is bullish). Note that all spreads are considered moderate positions as the investor has limited her risk by purchasing the Oct 50 put. Thus, the investor is moderately bullish.

DEBIT OR CREDIT: The dominant position will always have the higher premium. Because the investor is selling the dominant position, it is a credit spread as the Dec 50 put (which the investor is selling) will be more expensive than the Oct 50 put (which the investor is buying). Remember, whenever the investor sells the dominant leg, it is a credit spread.

WIDEN OR NARROW: Investors always want a credit spread to narrow. Because the investor initially earned a credit in the transaction, she needs to pay a smaller net premium when she closes the position. In other words, if the investor initially earned a credit of \$2 per share, she would need to pay less than \$2 per share when closing the position to profit. If this occurs, the spread is said to have narrowed because she would pay less premiums than what she initially earned.

Option Straddle Problems

For each problem, determine the following:

- 1) Investor attitude
- 2) Maximum gain and maximum loss
- 3) Breakeven points
- 4) The profit or loss on the position at the given market value

BUYER (LONG STRADDLE)		SELLER (SHORT STRADDLE)
Problem #1	1 MJK Jun 30 Put @ 2 1 MJK Jun 30 Call @ 3	
Attitude:		Attitude:
Max Gain:		Max Loss:
Max Loss:		Max Gain:
Breakeven Points:		Breakeven Points:
MJK = \$22; Result:		MJK = \$22; Result:
MJK = \$32; Result:		MJK = \$32; Result:
Problem #2	3 XYZ Jan 55 Calls @ 4 3 XYZ Jan 55 Puts @ 3	
Attitude:		Attitude:
Max Gain:		Max Loss:
Max Loss:		Max Gain:
Breakeven Points:		Breakeven Points:
XYZ = \$45; Result:		XYZ = \$45; Result:
XYZ = \$56; Result:		XYZ = \$56; Result:

Option Straddle Solutions

BUYER (LONG STRADDLE)		SELLER (SHORT STRADDLE)
Problem #1	1 MJK Jun 30 Put @ 2 1 MJK Jun 30 Call @ 3	
Attitude: Volatility		Attitude: Stability
Max Gain: Unlimited		Max Loss: Unlimited
Max Loss: Premium of \$500		Max Gain: Premium of \$500
Breakeven Points: \$25 & \$35		Breakeven Points: \$25 & \$35
MJK = \$22; Result: Gain of \$300		MJK = \$22; Result: Loss of \$300
MJK = \$32; Result: Loss of \$300		MJK = \$32; Result: Gain of \$300

ATTITUDE: A long straddle is a volatility play. The investor wants the stock to move by an amount greater than the total premiums paid, which is \$500 in this example (so he profits on the calls or puts). A short straddle is a stability play. The investor wants the stock to stay flat so both options expire, and he can keep all the premiums.

MAXIMUM GAINS & LOSSES: The long call allows the buyer of the straddle the right to purchase the stock at \$30, and since there is no limit to how high the stock can rise, the investor's maximum gain is unlimited. The short call obligates the seller of the straddle to sell stock at \$30, which means the investor's loss potential is unlimited. Regardless of how high the stock goes, the call writer **MUST** purchase the stock in the market to fulfill his obligation to sell the stock at the strike price of \$30.

The buyer of the straddle wants volatility, and therefore the worst-case scenario is that the stock stays at \$30 and both options expire, and he loses the premium of \$5 per share or \$500. Conversely, the seller of the straddle wants stability and if the stock remains at \$30, the investor gets to keep the premiums. Note that for the buyer of a straddle he needs enough volatility on the underlying security to offset the premium paid, while the premiums earned by the seller provides him a buffer against volatility.

BREAKEVENS: If the stock moves by exactly \$5 in either direction, up to \$35, or down to \$25, the investor will break even. At \$35, the \$5 premium per share exactly offsets the \$5 gain that is generated if the call option is exercised (remember calls are exercised when the market value is above the strike price). At \$25, the \$5 premium per share exactly offsets the \$5 gain if the put option is exercised (remember puts are exercised when the market value is below the strike price). Straddles have two breakeven points, strike price plus the total premiums (call up) and strike price minus the total premiums (put down).

PROFIT/LOSS AT \$22: At a market value of \$22, the buyer of the straddle will purchase shares in the market at \$22, and then exercise the put, selling the stock at the strike price of \$30, results in a gain of \$8 per share. Since the investor paid a premium of \$5 per share, his gain is \$3 per share or \$300. The short put obligates the seller of the straddle to purchase the stock at the strike price of \$30, even though it is only worth \$22. Because the seller received \$5 per share for selling the options, he has a total loss of \$300. Note that the call option expires as the market value is below the strike price.

PROFIT/LOSS AT \$32: If the market value of the stock is \$32, the buyer of the straddle will exercise the call option, allowing them to purchase the stock at \$30 and immediately sell the stock at \$32, resulting in a gain of \$2 per share. However, because he paid a \$5 premium per share, he has a loss of \$3 per share or \$300. The short call obligates the seller of the straddle to sell the stock at the strike price of \$30, even though it is worth \$32, resulting in a \$2 loss per share. However, because the seller received \$5 per share for selling the options, he has a gain of \$300. Note that the put option expires as the market value is above the strike price.

Above \$35 and below \$25 the buyer of the straddle will profit because there will be enough volatility in the market to offset the premiums he paid. Between \$25 and \$35 the seller of the straddle will profit, because the premiums he earns will outweigh the volatility in the market. As mentioned, at \$25 and \$35, the investor breaks even.

BUYER (LONG STRADDLE)		SELLER (SHORT STRADDLE)
Problem #2	3 XYZ Jan 55 Calls @ 4 3 XYZ Jan 55 Puts @ 3	
Attitude: Volatility		Attitude: Stability
Max Gain: Unlimited		Max Loss: Unlimited
Max Loss: Premium of \$2,100		Max Gain: Premium of \$2,100
Breakeven Points: \$48 & \$62		Breakeven Points: \$48 & \$62
XYZ = \$45; Result: Gain of \$900		XYZ = \$45; Result: Loss of \$900
XYZ = \$56; Result: Loss of \$1,800		XYZ = \$56; Result: Gain of \$1,800

ATTITUDE: A long straddle is a volatility play. The investor wants the stock to move by an amount greater than the total premium paid, which \$7 per share in this example (so she profits on the calls or puts). A short straddle is a stability play. The investor wants the stock to stay flat so both options expire, and she can keep all the premiums.

MAXIMUM GAINS & LOSSES: The long calls allow the buyer of the straddle the right to purchase the stock at \$55, and since there is no limit to how high the stock can rise, the investor's maximum gain is unlimited. The short calls obligate the seller of the straddle to sell stock at \$55, which means the investor's loss potential is unlimited. Regardless of how high the stock goes; the call writer **MUST** purchase the stock in the market to fulfill her obligation to sell the stock at the strike price of \$55.

The buyer of the straddle wants volatility, and therefore the worst-case scenario is that the stock stays at \$55 and both options expire, and she loses the premium of \$7 per share, \$700 per contract, or \$2,100 total (three contracts). Conversely, the seller of the straddle wants stability and if the stock remains at \$55, the investor gets to keep the premiums. Note that for the buyer of a straddle he needs enough volatility on the underlying security to offset the premium paid, while the premiums earned by the seller provides him a buffer against volatility.

BREAKEVENS: If the stock moves by exactly \$7 in either direction, up to \$62, or down to \$48, the investor will break even. At \$62, the \$7 premium per share exactly offsets the \$7 gain that is generated if the call option is exercised (remember calls are exercised when the market value is above the strike price). At \$48, the \$7 premium per share exactly offsets the \$7 gain if the put option is exercised (remember puts are exercised when the market value is below the strike price). Straddles have two breakeven points, strike price plus the total premiums (call up) and strike price minus the total premiums (put down).

PROFIT/LOSS AT \$45: At a market value of \$45, the buyer of the straddle will purchase shares in the market at \$45, and then exercise the put, selling the stock at the strike price of \$55, results in a gain of \$10 per share. Since the investor paid a premium of \$7 per share, her gain is \$3 per share, \$300 per contract, or \$900 (three contracts). The short put obligates the seller of the straddle to purchase the stock at the strike price of \$55, even though it is only worth \$45. Because the seller received \$7 per share for selling the options, she has a loss of \$300 per contract or \$900 (three contracts). Note that the call option expires as the market value is below the strike price.

PROFIT/LOSS AT \$56: If the market value of the stock is \$56, the buyer of the straddle will exercise the call option, allowing them to purchase the stock at \$55 and immediately sell the stock at \$56, resulting in a gain of \$1 per share. However, because she paid a \$7 premium per share, she has a loss of \$6 per share, \$600 per contract, or \$1,800 total (three contracts). The short call obligates the seller of the straddle to sell the stock at the strike price of \$55, even though it is worth \$56, resulting in a \$1 loss per share. However, because the seller received \$7 per share for selling the options, she has a gain of \$6 per share, \$600 per contract, or \$1,800 total (three contracts). Note that the put option expires as the market value is above the strike price.

Above \$62 and below \$48 the buyer of the straddle will profit because there will be enough volatility in the market to offset the premiums she paid. Between \$48 and \$62 the seller of the straddle will profit, because the premiums she earns will outweigh the volatility in the market. As mentioned, at \$48 and \$62, the investor breaks even.