2)

Stock	Profit	Payoff X$_{call}$=£15	X$_{call}$=£17.5	X$_{call}$=£20	Butterfly spread	Premium	Strike Price
					Buy Call Option x 1	£4.00	£15.00
£0.00	-0.5	-4	4	-0.5	Sell Call Option x 2	£2.00	£17.50
£14.00	-0.5	-4	4	-0.5	Buy Call Option x 1	£0.50	£20.00
£14.50	-0.5	-4	4	-0.5			
£15.00	-0.5	-4	4	-0.5			
£15.50	0	-3.5	4	-0.5			
£16.00	0.5	-3	4	-0.5			
£16.50	1	-2.5	4	-0.5			
£17.00	1.5	-2	4	-0.5			
£17.50	2	-1.5	4	-0.5			
£18.00	1.5	-1	3	-0.5			
£18.50	1	-0.5	2	-0.5			
£19.00	0.5	0	1	-0.5			
£19.50	0	0.5	0	-0.5			
£20.00	-0.5	1	-1	-0.5			
£20.50	-0.5	1.5	-2	0			
£21.00	-0.5	2	-3	0.5			
£21.50	-0.5	2.5	-4	1			
£22.00	-0.5	3	-5	1.5			
£22.50	-0.5	3.5	-6	2			
£23.00	-0.5	4	-7	2.5			
£23.50	-0.5	4.5	-8	3			
£24.00	-0.5	5	-9	3.5			
£24.50	-0.5	5.5	-10	4			
£25.00	-0.5	6	-11	4.5			
£25.50	-0.5	6.5	-12	5			
£26.00	-0.5	7	-13	5.5			

Components

Short two ATM call options, long one ITM call option and long one OTM call option.

Risk / Reward

Maximum Loss: Limited to the ATM strike less the ITM strike less the net premium paid for the spread.

Maximum Gain: Limited to the net premium received from the spread.

Characteristics

When to use: When you are neutral on market direction and bearish on volatility.

With a long butterfly your losses are limited. This means that you make money when the market remains flat over the life of the options.

Butterfly Call Spread
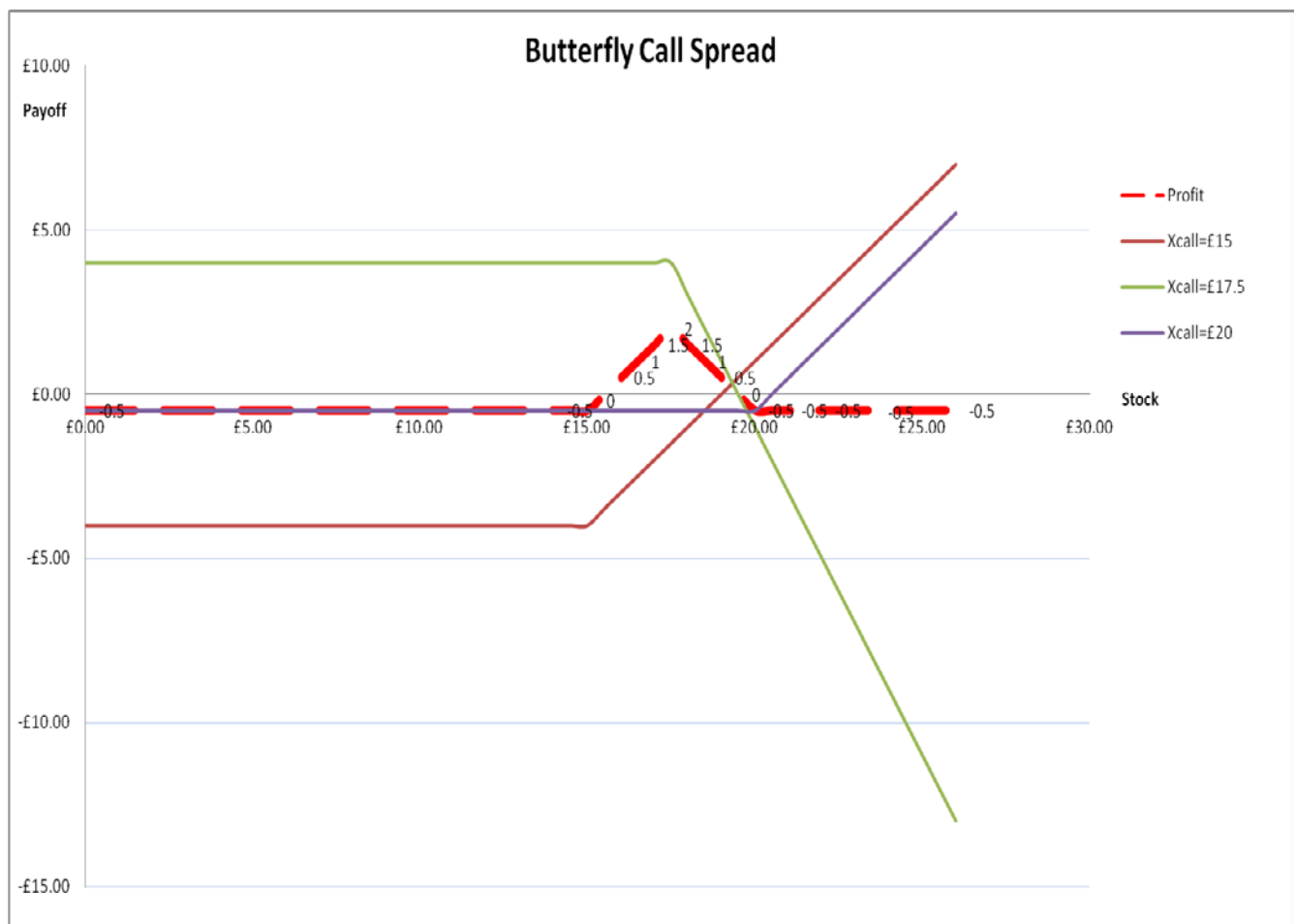
3)

Position	Strategy	Max loss	Max gain	Breakeven
Long Call	Bullish	Premium	Unlimited(OOTM)	SP + Premium
Shorh Call	Bearish/neutral	Unlimited(ITM)	Premium	SP + Premium
Long Put	Bearish	Premium	Unlimited(OOTM)	SP - Premium
Short put	bullish/neutral	Ulimited(ITM)	Premium	SP - Premium

SP=Strike   BE = Break even point

BE_{put}= (SP - S) - premium

BE_{call} = (S - SP) - premium