**1.** **Types of Option Spreads:**

* **Vertical Spreads:** Involve options with the same expiration date but different strike prices. They can be bullish or bearish depending on whether calls or puts are used and whether they are bought or sold.  
  + **Example:** A bull call spread involves buying a call option at a lower strike price and selling a call option at a higher strike price. This limits both potential profit and loss but can benefit from moderate upward price movements.
  + **Outcome:** If the underlying asset's price rises, the spread can profit up to a maximum limit. If the price falls or remains stagnant, the maximum loss is limited to the initial premium paid.
* **Horizontal Spreads:** Involve options with the same strike price but different expiration dates. They can capitalize on the difference in time decay rates between short-term and long-term options.  
  + **Example:** A calendar spread involves buying a longer-term call or put option and selling a shorter-term call or put option at the same strike price. This strategy profits from time decay.
  + **Outcome:** If the underlying asset's price moves close to the strike price as expiration nears, the spread can profit. However, if the price moves significantly away from the strike price, losses can occur.
* **Diagonal Spreads:** Combine elements of vertical and horizontal spreads by using different strike prices and expiration dates.  
  + **Example:** A bull diagonal spread might involve buying a call option with a longer expiration at a lower strike price and selling a call option with a shorter expiration at a higher strike price.
  + **Outcome:** Profits can occur if the underlying asset's price increases moderately and remains between the strike prices of the options.
* **Butterfly Spreads:** Involve three strike prices and can be constructed using calls or puts. They are used when a trader expects minimal movement in the underlying asset's price.  
  + **Example:** A long butterfly spread involves buying one call or put at a lower strike price, selling two calls or puts at a middle strike price, and buying one call or put at a higher strike price.
  + **Outcome:** Maximum profit is achieved if the underlying asset's price is near the middle strike price at expiration. Losses are limited to the initial premium paid.

**2.** **Risk Management Using Option Spreads:**

* **Limiting Losses:** Option spreads typically involve a defined maximum loss, which is known upfront when entering the trade. This helps traders manage risk more effectively compared to simply buying or selling individual options.
* **Reducing Cost:** By simultaneously buying and selling options, spreads can reduce the upfront cost compared to buying options outright. This can make strategies more accessible and less capital-intensive.
* **Hedging:** Spreads can be used to hedge existing positions in the underlying asset or other options. For example, a trader holding a long position in a stock might use a bear call spread to hedge against potential downside risk.

**3.** **Outcome Scenarios:**

* **Profit:** A spread can profit if the underlying asset's price moves favorably relative to the strike prices and expiration dates chosen. The profit is typically limited and known beforehand.
* **Loss:** Losses in a spread occur if the underlying asset's price moves unfavorably beyond the strike prices chosen. The loss is limited to the initial premium paid for the spread.
* **Break-Even:** Each spread has a break-even point where no profit or loss occurs at expiration. This break-even point depends on the strike prices, premiums paid/received, and expiration dates of the options involved.