

## Implied Volatility

It is important to understand the concept of an option's "implied volatility" before calculating and using it. If not familiar with this concept you should refer to the discussion of volatility in the *Toolbox* (Section 2) or consult one or more of the books on our reading list (refer to the "Reference Tools" section of the *Toolbox* or the CBOE's Web site [www.cboe.com](http://www.cboe.com)). In simple terms it is the volatility implied (or expected) by the marketplace for that option's underlying stock or index, for the lifetime of that option, as reflected in the option's trading price.

To use this calculator to derive an option's implied volatility, first type a value in each of the input boxes on the left side of the calculator's interface (price of stock/index, strike price, etc.) and calculate the option's theoretical values. Click on the "Implied Volatility" button and a small window appears. Select either "Call" or "Put," depending on which type of option you are valuing. Type in the actual market price for that option where prompted. **Important:** make sure you have included the price level of the underlying stock or index current to the option's market price. For example, if the market price for the option you are valuing is 3 1/2, include the price of the underlying stock or index when that option is trading 3 1/2.

Next, click on the "Calculate" button. You will see an implied volatility calculated and displayed in the appropriate space. When you close the "Implied Volatility" window you will notice the market price of the option you are valuing replacing its theoretical price. All other values in the theoretical output area (including the value for the other type of option - call or put) have been recalculated for the implied volatility you have just derived.

### CAUTIONS:

- Volatility estimates can greatly impact the calculation of an option's theoretical value.
- The implied volatility of options on a given underlying stock may vary for each expiration and strike price, Call and Put.
- Professional traders spend a great deal of time and resources developing volatility estimates. In the final analysis, these numbers are dynamic and subjective.

