

EXAMPLE

Time to Expiration (Days) – t	40 days
Strike (Exercise) Price – X	\$60
Stock Price – P	\$62
Volatility (Annualized) – σ	32%
Risk-Free Rate -- k_{RF}	4%

Intrinsic Value vs. Speculative Premium

$$\begin{aligned} \text{Call Price} &= IV_{\text{Call}} + SP_{\text{Call}} & \text{Put Price} &= IV_{\text{Put}} + SP_{\text{PUT}} \\ IV_{\text{Call}} &= \text{Max}\{P - X, 0\} & IV_{\text{Put}} &= \text{Max}\{X - P, 0\} \end{aligned}$$

Implied Volatility

You have a call option with 30 days to expiration, a stock price of \$53.50, a strike price of \$55, and a risk-free rate of 3%. The call is trading for \$1.43 and the put for \$2.80. What is the market's implied volatility for this stock?