

The Sharpe Ratio is a metric that measures the performance of an investment compared to a risk-free asset, after adjusting for its risk. It is often used to evaluate the performance of stocks, mutual funds, and investment strategies. The formula for the Sharpe Ratio is:

$$\text{Sharpe Ratio} = \frac{R_p - R_f}{\sigma_p}$$

Where: -  $R_p$  is the expected portfolio return (or investment return) -  $R_f$  is the risk-free rate of return -  $\sigma_p$  is the standard deviation of the portfolio's excess return (a proxy for risk).

To calculate the Sharpe Ratio for a stock using the data from your table, you will need to follow these steps:

1. **\*\*Calculate Daily Returns:\*\*** The first step is to calculate the daily returns of the stock. The daily return can be calculated by using the closing price ('close') of each day compared to the previous day:

$$\text{Daily Return}_t = \frac{\text{Close Price}_t - \text{Close Price}_{t-1}}{\text{Close Price}_{t-1}}$$

2. **\*\*Calculate Expected Portfolio Return ( $R_p$ ):\*\*** The expected return of the stock is the average of these daily returns over the period you are analyzing.

3. **\*\*Choose a Risk-free Rate ( $R_f$ ):\*\*** The risk-free rate is the theoretical return of an investment with zero risk, such as a US Treasury bond. You can use the current 3-month T-bill rate as a proxy for the risk-free rate.

4. **\*\*Calculate Standard Deviation of the Stock's Returns ( $\sigma_p$ ):\*\*** Find the standard deviation of the stock's daily returns to measure the volatility, which represents the risk of the stock.

5. **\*\*Compute the Sharpe Ratio:\*\*** Subtract the risk-free rate from the expected return of the stock, then divide the result by the standard deviation of the stock's returns.

6. **\*\*Compare Sharpe Ratios:\*\*** After computing the Sharpe Ratios for all the stocks you are analyzing, you can compare them. A higher Sharpe Ratio indicates a higher risk-adjusted return. This implies that, for the level of risk taken, the investment has a better performance.