📈 Risk Metrics Calculator

Key Risk Metrics: These three metrics help you understand and compare investment risk. Higher returns usually come with higher risk - these tools help you evaluate the trade-off.

Standard Deviation (σ)

Measures how much returns vary from the average. Higher = more volatile. A stock with 15% std dev will typically swing ±15% from its average return.

Beta (β)

Measures sensitivity to market movements. β=1 moves with market, β>1 more volatile than market, β<1 less volatile. β=1.5 means 50% more volatile than S&P 500.

Sharpe Ratio

Return per unit of risk. Higher = better risk-adjusted returns. Calculated as (Return - Risk-Free Rate) / Standard Deviation. >1 is good, >2 is excellent.

Investment Comparison Table

Investment	Expected Return	Std Deviation	Beta	Sharpe Ratio	Risk Level
S&P 500 Index	10%	15%	1.00	0.47	Moderate
Tech Growth Stock	15%	28%	1.40	0.43	High
Utility Stock	7%	12%	0.60	0.33	Low
Bond Fund	4%	5%	0.10	0.20	Very Low
Small Cap Value	12%	22%	1.25	0.41	High
REIT	9%	18%	0.80	0.33	Moderate-High

Calculate Sharpe Ratio

Enter values to calculate the Sharpe Ratio for any investment:

Expected Return (%)

Risk-Free Rate (%)

Standard Deviation (%)

10	3	15

Calculate Sharpe Ratio

Sharpe Ratio

0.47

Interpretation: A Sharpe ratio of 0.47 is below average. The return may not adequately compensate for the risk taken. Consider if the risk is worth it.

Which investment in the table has the best risk-adjusted return? Explain your reasoning.

Look at the Sharpe ratios and explain why higher isn't always better...

Why might an investor choose the Tech Growth Stock despite its lower Sharpe ratio than the S&P 500?

Consider investment goals, time horizon, and total return potential...

How would you use beta to construct a portfolio for a conservative investor?

Think about combining high and low beta investments...