HOUSEEDGEADVANTAGE

Trade Like the House, Not Like a Gambler

Trader's Math Reference Card

Key formulas and probability tables for probability-based trading

R-MULTIPLE AND REQUIRED WIN RATE

Formula: 1 ÷ (1 + R-Multiple) = minimum win rate to break even

R-Multiple	Min. Win Rate to Break Even
0.5R	67%
1R (1:1 reward/risk)	50%
1.5R	40%
2R (2:1 reward/risk)	33%
2.5R	29%
3R (3:1 reward/risk)	25%
3.5R	22%

CONSECUTIVE LOSS PROBABILITY

Probability of hitting N consecutive losses. Formula: $(1 - \text{Win Rate})^N$

Win Rate	1 in a Row	2 in a Row	3 in a Row	4 in a Row	5 in a Row
70%	30%	9.0%	2.7%	0.8%	0.2%
60%	40%	16.0%	6.4%	2.6%	1.0%
50%	50%	25.0%	12.5%	6.3%	3.1%
40%	60%	36.0%	21.6%	13.0%	7.8%
30%	70%	49.0%	34.3%	24.0%	16.8%

TRADE EXPECTANCY FORMULA

(Win Rate × Position Size × R-Multiple)
− ([1 − Win Rate] × Position Size)
= Trade Expectancy

EXAMPLE

Win Rate: 65% | Risk per trade: 1% | Avg R-Multiple: 1.5

(0.65 × 1% × 1.5) − (0.35 × 1%) = **0.625% expectancy per trade**

Positive expectancy means the strategy generates profit over a large sample. Focus on executing your process, not any single trade outcome.

THE POWER OF COMPOUNDING

Illustrative example: $10,000 starting account, 1.3% average gain per trade

Trade #	Account Value	Dollar Gain That Trade
1	$10,130	**$130**
50	$19,130	**$248**
100	$36,550	**$475**
200	$133,570	**$1,729**
300	$488,280	**$6,347**
400	$1,785,060	**$23,196**
500	$6,322,000	**$81,857**

Same win rate. Same strategy. The only thing that changed is the account size. This is why protecting capital matters as much as generating returns.

DRAWDOWN AND REQUIRED RECOVERY

Formula: Drawdown ÷ (1 − Drawdown) = gain required to get back to even

Drawdown	Recovery Required
5%	5.3%
10%	11.1%
15%	17.6%
20%	25.0%
25%	33.3%
30%	42.9%
40%	66.7%
50%	100.0%
60%	150.0%
70%	233.3%
80%	400.0%
90%	900.0%

LOSING STREAKS — CUMULATIVE ACCOUNT LOSS

Total account loss after N consecutive losing trades. Formula: $1 - (1 - \text{Risk\%})^N$

Losses in a Row	At 1% Risk	At 3% Risk	At 5% Risk
1	1.0%	3.0%	5.0%
2	2.0%	5.9%	9.8%
3	3.0%	8.7%	14.3%
4	3.9%	11.5%	18.6%
5	4.9%	14.1%	22.6%
6	5.9%	16.7%	26.5%
7	6.8%	19.2%	30.2%
8	7.7%	21.6%	33.7%
9	8.6%	24.0%	37.0%
10	9.6%	26.3%	40.1%

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