

Expected Value Cheat Sheet

Know when the math is on your side

1 The EV Formula

Expected Value tells you the average outcome per bet over the long run. Positive EV means you profit over time; negative EV means the house wins.

$$EV = (P(\text{Win}) \times \text{Payout}) - (P(\text{Loss}) \times \text{Wager})$$

Example: A fair coin flip paying 2:1 on heads. $EV = (0.50 \times \$2) - (0.50 \times \$1) = \$1.00 - \$0.50 = +\$0.50$ per bet.

2 House Edge by Game

Game	House Edge	Your EV per \$100
Blackjack (basic strategy)	0.50%	-\$0.50
Baccarat (banker bet)	1.06%	-\$1.06
Craps (pass line)	1.41%	-\$1.41
Roulette (single zero)	2.70%	-\$2.70
Roulette (double zero)	5.26%	-\$5.26
Slots (typical range)	2 - 15%	-\$2 to -\$15

Lower house edge = more play time per dollar. Blackjack with basic strategy is the best table game bet.

3 Bonus EV Formula

Not all casino bonuses are worth taking. This formula tells you if a bonus has positive expected value after wagering requirements.

$$\text{Bonus EV} = \text{Bonus} - (\text{WR} \times \text{Bonus} \times \text{House Edge})$$

4 Worked Example

Scenario: \$100 bonus, 30x wagering, playing slots at 3% house edge

Total wagering needed: $30 \times \$100 = \$3,000$
Expected loss from play: $\$3,000 \times 0.03 = \90
Bonus EV: $\$100 - \$90 = +\$10$

Verdict: +EV. This bonus is worth taking.

5 When to Walk Away

If EV is negative and you have met your wagering requirements, cash out. Do not chase losses. The math does not change because you feel lucky. Set a loss limit before you sit down, and honor it.

6 RTP Quick Reference

If a slot says 96% RTP, that means 4% house edge. Here is what that costs you over different bankrolls:

Wagered	Expected Loss (96% RTP)	Expected Loss (94% RTP)
\$100	\$4.00	\$6.00
\$1,000	\$40.00	\$60.00
\$10,000	\$400.00	\$600.00
\$100,000	\$4,000.00	\$6,000.00