WAGERLEX · THE MATHS

Vig & Implied **Probability**

Turn any price into a probability, see the margin folded inside it, and rescale both sides back to a fair, no-vig chance.

By **WagerLex** (wagerlex.com) · 12 July 2026 (Week 28) · Educational reference document — not an app or betting product

> Every betting price is a probability with a margin folded in. This reference is the conversion toolkit: how to turn American and decimal odds into implied probabilities, why both sides of a market sum to more than 100%, and how to rescale them back to a fair, no-vig chance. Every worked example is re-derivable from the numbers shown. Reference material only — no picks, no affiliate links.

01 American to probability

For a negative price, divide the odds without the sign by that number plus 100: -110 becomes 110/210 = 52.38%. For a positive price, divide 100 by the odds plus 100: +150 becomes 100/250 = 40.00%. Two formulas cover every American price you will see.

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02 The decimal shortcut

Decimal odds make it trivial: implied probability is one divided by the decimal. 2.00 is 50%, 1.9091 (the decimal form of -110) is 52.38%. Working in decimals is why the probability is always just the reciprocal.

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03 Why both sides exceed 100%

Convert both sides of a -110/-110 market and add them: 52.38% + 52.38% = 104.76%. The two outcomes are exhaustive, so a fair market would sum to 100%. The extra 4.76% is the overround — the margin folded into the two prices.

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04 Overround versus hold

Overround is how far the prices sum above 100% (here 4.76%). Hold is the share of total stakes the book keeps once balanced: 4.76% / 104.76% = 4.55%. They travel together and are often blurred, but overround is a property of the prices while hold is the book's take.

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05 Removing the vig

Rescale both implied probabilities to sum to 100% by dividing each by the total. On a lopsided -200/+170 market the raw figures are 66.67% and 37.04% (sum 103.70%); the no-vig chances are 64.29% and 35.71%. The favourite's fair chance is 64.29%, not the 66.67% the raw price implies.

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06 Comparing books fairly

Two books quoting -195 and -205 look similar until you convert both to a no-vig probability, which tells you which is genuinely the better price. The no-vig figure is the number to compare your own opinion against — beating it consistently is what an edge looks like.
