Poker Math & Probabilities (Texas Hold'em)

The following tables provide various probabilities and odds for many of the common events in a game of Texas hold 'em.

Starting Hand Probabilities	Odds	%
AKs (or any specific suited cards)	330-to-1	0.30%
AA (or any specific pair)	220-to-1	0.45%
AA or KK	110-to-1	0.90%
AKs, KQs, QJs, or JTs (suited cards)	82-to-1	1.21%
AK (or any specific non-pair incl. suited)	82-to-1	1.21%
AA, KK, or QQ	73-to-1	1.36%
AA, KK, QQ or JJ	55-to-1	1.81%
Suited cards, jack or better	55-to-1	1.81%
AA, KK, QQ, JJ, or TT	43-to-1	2.26%
Suited cards, 10 or better	33-to-1	3.02%
Suited connectors	26-to-1	3.92%
Connected cards, 10 or better	20-to-1	4.83%
Any pair	16-to-1	6.25%
One or more Aces	6-to-1	16.60%
Two suited cards	3-to-1	24.00%

Common Pre-Flop Match-Ups	Example	Win %
Pair vs. Pair	JJ v 77	80% v 20%
Pair vs. Overcards	55 v AQ	55% v 45%
Pair vs. Suited overcards	55 v AQs	50% v 50%
Pair vs. Undercards	JJ v 75	85% v 15%
Pair vs. Suited undercards	JJ v 75s	80% v 20%
Pair vs. Overcard and an undercard	99 v K8	70% v 30%
Pair vs. Overcard and one of that pair	88 v 89	65% v 35%
Pair vs. Undercard and one of that pair	QQ v Q9	90% v 10%
Two high cards vs. Two undercards	KT v 74	65% v 35%
High card, low card vs. Two middle cards	J3 v 97	55% v 45%
High card, middle card vs. Second highest, low card	K8 v T6	60% v 40%
High card, same card vs. Same card, low card	K9 v 97	70% v 30%
Same high card, high kicker vs. Same card, low kicker	AK v A9	75% v 25%

Note: The math presented above is rounded and doesn't account for all possibilities. The number of clean suits and/or the max number of straight outs also need to be considered.

The Probability that....	Odds	%
Non-pairs will pair at least one card	2-to-1	32.00%
Non-pairs will pair both hold cards	50-to-1	2.02%
A pair will flop a set	8-to-1	12.00%
A pair will flop four of a kind	400-to-1	0.25%
Two suited cards will flop a flush	118-to-1	0.85%
Two suited cards flop a four flush (flush draw)	9-to-1	10.90%
Two suited cards will make a flush by the river	15-to-1	6.50%

You Hold	Hope to Make	Outs
A Pair	Three of a Kind	2
Two Pair	Full House	4
Inside Straight	Straight	4
Overcards	Pair	6
Open-ended Straight	Straight	8
Four Flush	Flush	9
Straight & Flush Draw	Straight / Flush or Better	15