Probability of flopping a set, flush or straight

Hitting the flop

Flopping things …	Probability	Formula
Flopping things with a pair		
Flopping a set or better with a pair	**11.8%** (1 : 7.5)	$1 - \binom{48}{3} \times \binom{50}{3}^{-1}$
Flopping quads with a pair	**0.245%** (1 : 407)	$48 \times \binom{50}{3}^{-1}$
Flopping an overpair or better with KK	**77.4%** (3.4 : 1)	$\binom{46}{3} \times \binom{50}{3}^{-1}$
Flopping an overpair or better with QQ	**58.6%** (1.4 : 1)	$\binom{42}{3} \times \binom{50}{3}^{-1}$
Flopping an overpair or better with JJ	**43.0%** (1 : 1.3)	$\binom{38}{3} \times \binom{50}{3}^{-1}$
Flopping an overpair or better with TT	**30.5%** (1 : 2.3)	$\binom{34}{3} \times \binom{50}{3}^{-1}$
Flopping things with suited cards		
Flopping a flush with suited cards	**0.842%** (1 : 118)	$\binom{11}{3} \times \binom{50}{3}^{-1}$
Flopping a flush draw with suited cards	**10.9%** (1 : 8.1)	$39 \times \binom{11}{2} \times \binom{50}{3}^{-1}$
Flopping a backdoor flush draw with suited cards	**41.6%** (1 : 1.4)	$\binom{39}{2} \times 11 \times \binom{50}{3}^{-1}$
Flopping straights and straight-draws		
Flopping a straight with a connector (54 – JT)	**1.31%** (1 : 76)	$4 \times 4^3 \times \binom{50}{3}^{-1}$
Flopping a straight draw with a connector	**9.71%** (1 : 9.3)	$(144 + 1632 + 128) \times \binom{50}{3}^{-1}$
Flopping a straight with a one-gapper (53 – QT)	**0.980%** (1 : 101)	$3 \times 4^3 \times \binom{50}{3}^{-1}$
Flopping a straight draw with a one-gapper	**7.67%** (1 : 12)	$(96 + 1088 + 128 + 192) \times \binom{50}{3}^{-1}$
Flopping things with unpaired cards		
Flopping quads with two unpaired cards	**0.0102%** (1 : 9,799)	$2 \times \binom{50}{3}^{-1}$
Flopping a full house with two unpaired cards	**0.0918%** (1 : 1,088)	$2 \times \binom{3}{2} \times \binom{3}{1} \times \binom{50}{3}^{-1}$
Flopping trips with two unpaired cards	**1.35%** (1 : 73)	$2 \times 6 \times 44 \times \binom{50}{3}^{-1}$
Flopping two pair with two unpaired cards (no pair on the board)	**2.02%** (1 : 48)	$3 \times 3 \times 44 \times \binom{50}{3}^{-1}$
Flopping at least one pair	**32.4%** (1 : 2.1)	$1 - \binom{44}{3} \times \binom{50}{3}^{-1}$