

From 52 card deck, 5 Aces payable:

Formula

5 Aces	
Royal Flush	$=4$
Straight Flush	$=9*4$
4 Aces w/ 2,3,4	$=1*12$
4 2s,3s,4s w/ A,2,3,4	$=3*12$
4 Aces	$=1*36$
4 2s,3s,4s	$=3*36$
4 5s-Ks	$=9*48$
Full House	$=156*24$
Flush	$=(1287*4)-(4+36)$
Straight	$=(40*4*4*4*4)-(4+36)$
Three of a Kind	$=13*4*48*44/2$
Two Pair	$=13*12*6*6*44/2$
Pair of Aces	$=6*48*44*40/6$
Nothing	$=B18-SUM(B4..B16)$
Total	$=1/((5/52)*(4/51)*(3/50)*(2/49)*(1/48)))$

From 53 card deck:

Formula

5 Aces	$=1$
Royal Flush	$=4$
Straight Flush	$=9*4$
4 Aces w/ 2,3,4	$=1*12*4$
4 2s,3s,4s w/ A,2,3,4	$=3*13$
4 Aces	$=1*36*4$
4 2s,3s,4s	$=3*36$
4 5s-Ks	$=9*49$
Full House	$=(1*12*10*6)+(12*1*4*10)+(12*11*4*6)$
Flush	$=(1287*4)-(4+36)$
Straight	$=(40*4*4*4*4)-(4+36)+(4^4*2)$
Three of a Kind	$=(1*10*48*44/2)+(12*4*49*45/2)$
Two Pair	$=(1*12*10*6*44)+(12*11*6*6*45/2)$
Pair of Aces	$=10*48*44*40/6$
Nothing	$=B37-SUM(B22..B35)$
Total	$=1/((5/53)*(4/52)*(3/51)*(2/50)*(1/49)))$