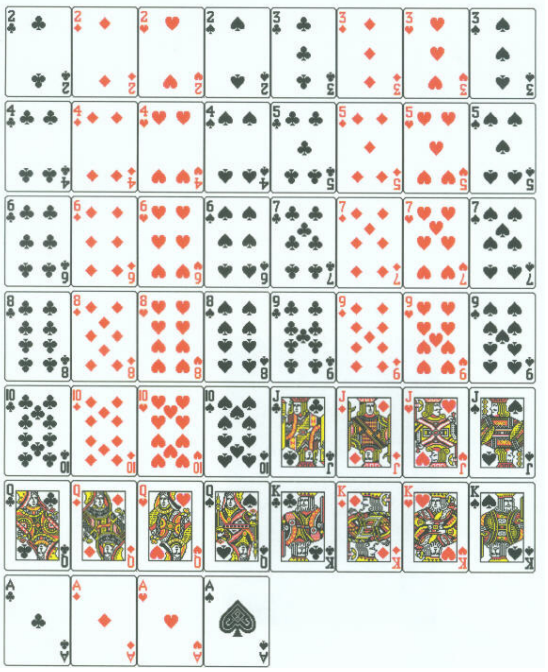
Probability Test Formulas



Probability of an event, *E*:

$$p(E) = \frac{n(E)}{n(S)}$$

Odds FOR an event, *E*:

$$o(E) = n(E) : n(\overline{E})$$

If $o(E) = a : b$, then $p(E) = \frac{a}{a+b}$.

Cardinal number rules for probability:

$$p(E) + p(\overline{E}) = 1$$

$$p(E \cup F) = p(E) + p(F) - p(E \cap F)$$

Conditional Probability:

$$p(A \mid B) = \frac{n(A \cap B)}{n(B)}$$

Product Rule:

$$p(A \cap B) = p(A \mid B) \cdot p(B)$$

Sample Space of Rolling a Pair of Dice

Sum ↓	(1, 1)	(1, 2)	(1, 3)	(1, 4)	(1, 5)	(1, 6)
2	(2, 1)	(2, 2)	(2, 3)	(2, 4)	(2, 5)	(2, 6)
3	(3, 1)	(3, 2)	(3, 3)	(3, 4)	(3, 5)	(3, 6)
4	(4, 1)	(4, 2)	(4, 3)	(4, 4)	(4, 5)	(4, 6)
5	(5, 1)	(5, 2)	(5, 3)	(5, 4)	(5, 5)	(5, 6)
6	(6, 1)	(6, 2)	(6, 3)	(6, 4)	(6, 5)	(6, 6)

7	8	9	10	11	12	