Let A be the event "the sum is 11 or 12"
B "the sum is greater than 9"

Compute $P(A), P(B), P(A \cap B), P(A \cup B)$

$$S = \begin{pmatrix} 11 & 21 & 31 & 41 & 51 & 61 \\ 12 & 22 & 32 & 42 & 52 & 62 \\ 13 & 23 & 33 & 43 & 53 & 63 \\ 14 & 24 & 34 & 44 & 54 & 64 \\ 15 & 25 & 35 & 45 & 55 & 65 \\ 16 & 26 & 36 & 46 & 56 & 66 \end{pmatrix}$$

36 equally likely outcomes

$$P(A) = \frac{5}{36}$$

$$P(B) = \frac{6}{36} = \frac{1}{6}$$

$$P(A \cap B) = \frac{5}{36}$$

$A \cap B$ = A and B both

$$P(A \cup B) = P(A) + P(B) - P(A \cap B) = \frac{1}{6}$$

$A \cup B$ = A or B or both

$$\frac{5}{36} + \frac{6}{36} - \frac{5}{36} = \frac{6}{36} = \frac{1}{6}$$

$$\boxed{P(A) = \frac{5}{36}, P(B) = \frac{1}{6}, P(A \cap B) = \frac{5}{36}, P(A \cup B) = \frac{1}{6}}$$