

The sample space has 36 outcomes from (1, 1) to (6, 6). The outcomes for the event are the pairs that sum to less than 10:

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

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

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

There are 30 outcomes in this event. So  $\frac{30}{36}$ , or  $\frac{5}{6}$ , is the probability of rolling a sum less than 10.