

# Counting Sample Spaces

## Tic Tac Toe



How many  
security codes  
can you create  
if a code has 4  
digits and no  
digit can  
repeat?

5040



4 Kit Kats,  
3 Snicker Bars,  
and 10 Twix bars  
are placed in a  
bag. How many  
ways can a kid  
chose five  
pieces to eat for  
dinner?

6188



A restaurant offers  
3 appetizers, 5  
entrees, and 2  
desserts. How  
many ways can  
you create a 3  
course meal?

30



How many  
ways can 4  
people line up  
to buy a  
Chicken Biscuit  
at Bojangles?

24



A group of five students is selected from a class of 32. How many ways can the teacher select the five students?

201376



How many 3 digit  
area codes are  
possible if the first  
digit cannot be 0  
or 1 and the last  
digit must be 5 or  
larger?

400



Three different  
seeds are  
planted in a  
horizontal row.  
How many ways  
can you plant the  
seeds?

6



A cast of 9 extras is needed for the school play. 20 students try out for the parts. How many ways can the director select the 9 extras?

167,960



A teacher selects a writer, a time keeper, and a runner from a group of 6 students. How many ways can the teacher select these positions?

120



How many  
outcomes are  
possible if you  
roll a die 6  
times?

46,656

