

MATHCOUNTS[®] Problem of the Week Archive

Ten, Eleven, Twelve – October 15, 2012

Problems & Solutions

This past Thursday's date was 10/11/12. For this particular date, the month, day and two-digit year (MM, DD, YY) are consecutive integers. The sum of these integers is $10 + 11 + 12 = 33$. What is the maximum value possible for the sum of the day, month and two-digit year of a date consisting of three such consecutive integers?

Between January 1, 2000 and December 31, 2099, how many such dates occur where the month, day and two-digit year (MM, DD, YY) are three consecutive integers?

A date is randomly selected from the group of dates between January 1, 2000 and December 31, 2099 which have a month, day and two-digit year (MM, DD, YY) that are three consecutive integers. What is the probability that exactly two of the three consecutive integers are prime? Express your answer as a common fraction.