LATEST WORLD-WIDE FATALITY RATES FOR THE CORONAVIRUS PANDEMIC
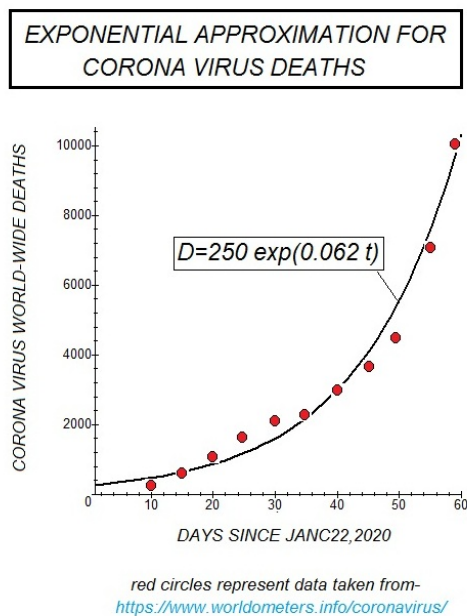
Over the last month I have published three articles on this web page concerning the estimated cumulative fatalities due to the Corona Virus Pandemic . Using data published daily at-

https://www.worldometers.info/coronavirus/

and realizing that the early stages of fatality numbers should follow an exponential trend, I came up with the fact that the cumulative number of world-wide deaths should follow the exponential law-
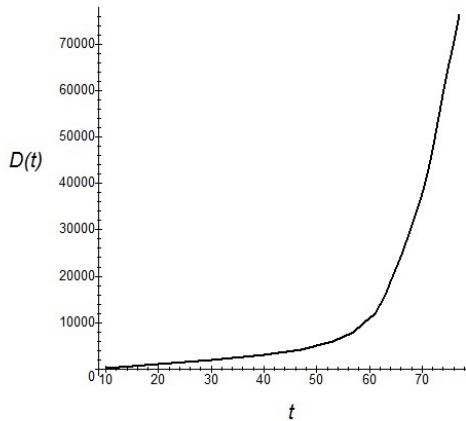
$$D(t)=250\exp(0.062t)$$

Here D(t) represents the cumulative world deaths and t the number of days from January 22, 2020. The starting value of t=1 was chosen as the point where the first significant rise in the death toll was indicated by the data. Using the data up through t=60, one arrives at the following graph-
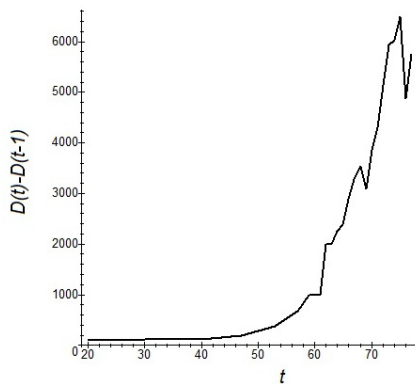

EXPONENTIAL APPROXIMATION FOR
CORONA VIRUS DEATHS

$D=250\ exp(0.062\ t)$

CORONA VIRUS WORLD-WIDE DEATHS

DAYS SINCE JANC22,2020

red circles represent data taken from-
https://www.worldometers.info/coronavirus/

The agreement of the exponential curve shown and the data over the range 1<t<60 is not bad. We noticed, however, that the exponential curve begins to progressively lag the data as one goes above t=60. For example, at t=70 the data says D(70)=37815 while the exponential curve predicts 19176. This discrepancy implies that above t=60 the model changes to a super-exponential form requiring changes in the constants in the above formula. It suggests that one now work only directly with the daily data D=D(t) and the daily difference D(t)-D(t-1) and dispense with any formula . We have done this using the latest data at t=77 (April 7). Here is the plotted data-

CUMMULATIVE WORLD-WIDE DEATHS FROM THE CORONA VIRUS(10<t<77)

and-

DAILY CHANGE IN MORTALITY DUE TO THE CORONA VIRUS

The latest numbers are seen to be D(77)=76343 with D(77)-D(76)=5748. These numbers have been rising each week with the exception of the last two days. This may indicate we have reached the expected peak in the daily change of D(t). Yesterday's 16 hundred point rise in the DJI suggests this peak may be real. We will need to wait a few more days to confirm things.

The federal response and the daily presidential press conference concerning the Corona Virus has been highly disorganized and contradictory leaving the public in a quandary. In my opinion, there seems to be too much attention being placed on facemasks and ventilators and insufficient attention paid to quarantine enforcement. Even after the D(t)-D(t-1) peak is reached, the number of cumulative world-wide deaths will have to double again before the final plateau in D(t) is reached sometime in the summer. My earlier estimate for corona fatalities was probably too high.

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April 7, 2020
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