## Answer on Question \#48322-Math-Statistics and Probability

May has 31 days. How would the experimental probability be affected if someone mistakenly used 30 days to calculate the experimental probability that the maximum temperature will not be greater than $90{ }^{\circ} \mathrm{F}$ on a given day in May?

## Solution



True probability that the maximum temperature will not be greater than $90^{\circ} \mathrm{F}$ on a given day in May is

$$
P_{0}=\frac{31-11}{31}=0.645 .
$$

The probability that the maximum temperature will not be greater than 90\% ${ }^{\circ}$ on a given day in May (used 30 days) is

$$
\begin{gathered}
P_{1}=\frac{30-11}{30}=0.633 . \\
\frac{P_{1}-P_{0}}{P_{0}}=\frac{0.633-0.645}{0.645}=-0.0186
\end{gathered}
$$

Therefore the experimental probability that the maximum temperature will not be greater than $90 \circ \mathrm{~F}$ on a given day in May decreased by 1.86\%.

