Repeated Drug Doses Example

The amount of drug (in milligrams) in the bloodstream is modeled by

\[ D_n = 16 + (0.75)D_{n-1} \text{ where } D_1 = 16. \]

Tabling the drug amounts (in mg) over the twenty time periods / doses:

\[
\begin{align*}
D_1 &= 16 & D_{11} &\approx 61.30 \\
D_2 &= 28 & D_{12} &\approx 61.97 \\
D_3 &= 37 & D_{13} &\approx 62.48 \\
D_4 &= 43.75 & D_{14} &\approx 62.86 \\
D_5 &\approx 48.81 & D_{15} &\approx 63.14 \\
D_6 &\approx 52.61 & D_{16} &\approx 63.36 \\
D_7 &\approx 55.46 & D_{17} &\approx 63.52 \\
D_8 &\approx 57.59 & D_{18} &\approx 63.64 \\
D_9 &\approx 59.19 & D_{19} &\approx 63.73 \\
D_{10} &\approx 60.40 & D_{20} &\approx 63.80 
\end{align*}
\]