This sentence contains Einstein's equation $E=m c^{2}$ This equation shows up in a separate line with no numbering:

$$
E=m c^{2}
$$

This is a full equation:

$$
\begin{equation*}
E=m c^{2} \tag{1}
\end{equation*}
$$

This is a full series of equations aligned at the " $=$ " sign:

$$
\begin{align*}
E & =m c^{2}  \tag{2}\\
m & =\frac{E}{c^{2}}  \tag{3}\\
c^{2} & =\frac{E}{m} \tag{4}
\end{align*}
$$

