

This is the first sentence with a soft return.
This is the second sentence after a hard return.

This is a new paragraph because of a blank line (hard return).

This is the famous equation: $E = mc^2$.

A rectangle has side lengths of $(x+1)$ and $(x+3)$. The equation for $A(x) = x^2 + 4x + 3$ gives the area of the rectangle.

written in display math

$$a^2 + b^2 = c^2$$

and

$$e = mc^2 \tag{1}$$

and

$$n(n+1)2$$