This is a pencil-and-paper exercise. No calculators.

Let $f(x) = e^x(1 - x)$.

(a) Find the x-intercept(s) and the y intercept of the graph $y = f(x)$.

(b) Find $f'(x)$.

(c) Find the value(s) of x where the graph $y = f(x)$ has a horizontal tangent.