Problem 1: The position function after t seconds of a particle moving along a straight line is $y = 2t^2 - 8t + 5$. Find the distance traveled by the particle in the first 5 seconds.

Problem 2: Find all asymptotes of the function $y = \dfrac{2 - x \sin x}{x^2}$

Problem 3: If $f(0) = 3$ and $f'(0) = 4$ find $\left(\dfrac{f}{x + \cos x}\right)'(0)$

Problem 4: Find the slope of the line tangent to the curve $y = x + e^x$ and passes through the origin.