1. Find the exact value of the arc length of $f(x) = \left(9 - x^{\frac{2}{3}}\right)^{\frac{3}{2}}$ on $[1, 2]$ using definite integrals.

2. Find the exact value of the arc length of $g(x) = \ln(\sin x)$ on $\left[\frac{\pi}{4}, \frac{3\pi}{4}\right]$ using definite integrals.

3. Find the exact value of the surface area created by revolving $h(x) = \frac{x^6+2}{8x^2}$ about the x-axis on $[1, 3]$ using definite integrals.

4. Find the exact value of the surface area created by revolving $k(x) = \sqrt{3x+1}$ about the x-axis on $[0, 3]$ using definite integrals.