1. (6 pts) Evaluate the following integrals
   (a) \[ \int_{0}^{3\pi/2} |\sin(x)|dx, \]
   (b) \[ \int \frac{dx}{\sin^2(x)\sqrt{1 + \cot x}}, \]

2. (4 pts) Set up (DO NOT EVALUATE) the integral that gives the volume of the solid obtained by rotating the region bounded by the curves
   \[ y = 2\sqrt{2} x^2, \quad x = y^2, \]
   about the line \( x = 2. \)
1. (6 pts) Evaluate the following integrals
   (a) \[ \int_0^{3\pi/2} |\cos(x)| \, dx, \]
   (b) \[ \int \frac{dx}{\cos^2(x)\sqrt{1 + \tan x}}, \]

2. (4 pts) Set up (DO NOT EVALUATE) the integral that gives the volume of the solid obtained by rotating the region bounded by the curves
   \[ y = 3\sqrt{3} x^2, \quad x = y^2, \]
   about the line \( x = 3 \).