2.5 A dam consisting of a slanted wall has a parabolic plan form as shown. Find the resultant force and its location of the water on the dam.

Equation of the plan form
\[ y = L(x/a)^2 \]
Wetted area: \( A = 4aL/3 \)
Centroid: \( y_c = 3L/5 \)
Second Moment: \( I_{xx} = 4aL^3/7 \)

2.6 Find the horizontal and vertical components of the resultant force on the wall composed of a quarter circle \( 0 \leq z \leq 2 \) and the vertical segment \( 2 \leq z \leq 4 \). Find the moment of the horizontal component about 0.