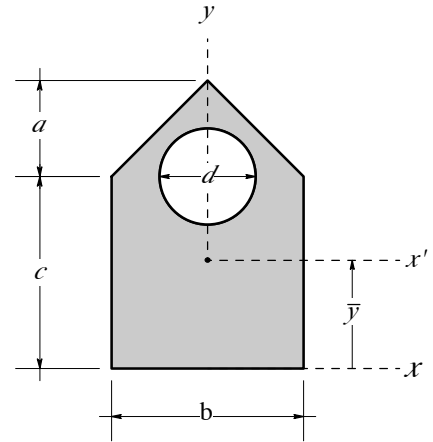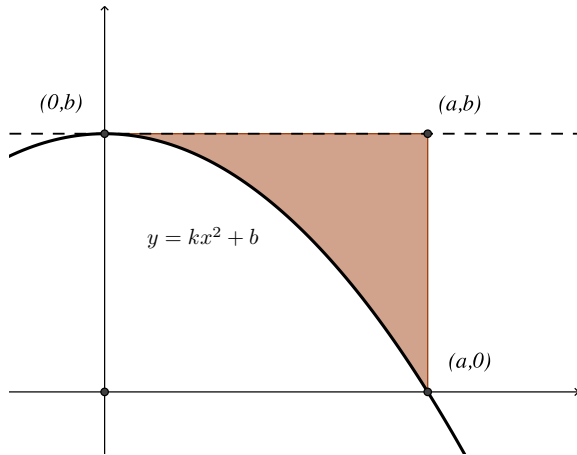**Problem 1**

Given: $a = 18$ mm, $b = 45$ mm, $c = 40$ mm, and $d = 20$ mm

- Set up a table and find A, Q_x and $\bar{y}$.
- Determine the centroidal moment of inertia, $\bar{I}_{x'}$.

Problem 2

Use integration to locate the centroid of the shaded area in terms of the given information.

$y = kx^2 + b$

Problem 3 Determine the moment of inertia and the radius of gyration of the shape shown with respect to the x axis.

$r_o = 90$ **mm**

$r_i = 50$ **mm**

40 mm

x

280 mm