1. Point-masses $m_i$ are located on the x-axis as shown. Find the moment $M$ of the system about the origin and the center of mass $\bar{x}$.

\[
\begin{array}{ccc}
  m_1 = 15 & m_2 = 20 & m_3 = 5 \\
  -2 & 0 & 3 & 7
\end{array}
\]

2. The point-masses $m_i$ are located at the given points $P_i$. Find the moments $M_x$ and $M_y$ and the center of mass of the system: $m_1 = 6$, $m_2 = 4$, and $m_3 = 10$; $P_1(1, 3)$, $P_2(3, -2)$, and $P_3(-2, -1)$

For questions 3 and 4, sketch the region bounded by the curves, and visually estimate the location of the centroid. Then find the exact coordinates of the centroid.

3. $3x + 2y = 6$, $y = 0$, $x = 0$
4. \( y = x, \ y = x^2 \)

5. Calculate the moments \( M_x \) and \( M_y \) and the centroid of the given shape where \( \rho = 2 \).