1. Let $R$ be the region bounded by the graphs of $y = x^2 - 5x$ and $y = 3 - 3x$. 
   **Set up an integral for the volume of the solid generated by revolving $R$**
   a) Around the line $y = -8$.
   b) Around the line $x = 5$.

2. Let $R$ be the region bounded by the graphs of $x = 3y - y^2$ and $x = 4 - 2y$.
   **Set up an integral for the volume of the solid generated by revolving $R$**
   a) Around the line $y = -1$.
   b) Around the line $x = 4$.

3. Let $R$ be the region bounded by the graphs of $y = 3\sqrt{x}$ and $y = \frac{3}{2}x$.
   **Set up an integral for**
   a) The area of $R$.
   b) The volume of the solid generated by revolving $R$
      i) Around the line $y = 8$.
      ii) Around the line $x = -3$.

4. Set up an integral for the volume of the solid obtained by revolving the region bounded by the graphs of $y = x^2$ and $y = 3 - 2x$ about the $y$-axis.

5. For each of the following parametric curves, eliminate the parameter $t$ and then sketch the curve.
   a) $x = 4t^3 - 10t + 4$, $y = 2t - 1$; $t$ in $\mathbb{R}$.
   b) $x = 5\cos t$, $y = 4\sin t$; $0 \leq t \leq 2\pi$.
   c) $x = 2\tan t$, $y = 2\sec t$; $0 \leq t < \frac{\pi}{2}$. 
