1. Find the volume of the solid formed by rotating about the *x*-axis the region bounded by $y = x^2$, $y = 0$, & $x = 2$.

2. Find the volume of the solid formed by rotating about the *y*-axis the region bounded by $y = x^2$, $y = 4$, & $x = 0$.

3. Find the volume of the solid formed by rotating about the *x*-axis the region bounded by $y = x$ & $y = x^2$.

4. Find the volume of the solid formed by rotating about the line $y = 2$ the region bounded by $y = x^2$ & $y = x^3$.

5. Find the volume of the solid formed by rotating about the line $x = -1$ the region bounded by $y = x^2$ & $y = x^3$.

6. Use calculus to derive the formula for the volume of a cone with radius *r* and height *h*.