Math 152 Practices on Shell Method

Find the following volume of the solid of revolution with respective regions and axis.

1. Bounded by $y = \frac{4}{x},\ x = 1, x = 4$ and $y = 0$; rotating about $y - axis$.

2. Bounded by $y = x^2,\ x = 2$ and $y = 0$; rotating about $y - axis$.

3. Bounded by $y = 4 - x^2,\ x = 0$ and $y = 0$; rotating about $y - axis$.

4. Bounded by $y = \frac{1}{4}x^2 + 2,\ x = 2$ and $y = 0$; rotating about $y - axis$.

5. Bounded by $y = x^2,$ and $y = 2x$; rotating about $y - axis$.

6. Bounded by $x = y^2,\ y = 2$ and $x = 0$; rotating about $x - axis$.

7. Bounded by $x = \sqrt{2y} + 1,\ y = 2$ and $x = 0$; rotating about $x - axis$.

8. Bounded by $x = y^2,\ y = 2$ and $x = 0$; rotating about $y = 2$.

9. Bounded by $x = \sqrt{2y} + 1,\ y = 2$ and $x = 0$; rotating about $y = 3$.

10. Bounded by $x = \sqrt{y}$ and $x = \frac{y^3}{32}$; rotating about $x - axis$.

11. Bounded by $x = \sqrt{y}$ and $x = \frac{y^3}{32}$; rotating about $x = 4$.