

Name: _____ Score: _____

Teacher: _____ Date: _____

Volume of revolution

<p>1. Rotate the region bounded by $f(x) = \sqrt{x}$; $g(x) = 3$ and the y-axis about the y-axis.</p> <p style="color: red;">$\frac{243}{5} \pi$</p>	<p>2. Rotate the region bounded by $f(x) = 7 - x^2$; $x = -2$; $x = 2$ and the x-axis about the x-axis.</p> <p style="color: red;">$\frac{2012}{15} \pi$</p>
<p>3. Rotate the region bounded by $x = y^2 - 6y + 10$; $x = 5$ about the y-axis.</p> <p style="color: red;">$\frac{1088}{15} \pi$</p>	<p>4. Rotate the region bounded by $f(x) = 2x^2$; $g(x) = x^3$ about the x-axis.</p> <p style="color: red;">$\frac{256}{35} \pi$</p>
<p>5. Rotate the region bounded by $f(x) = 6e^{-2x}$; $g(x) = 6 + 4x - 2x^2$ between $x = 0$ and $x = 1$ about the line $y = -2$.</p> <p style="color: red;">$\left(\frac{937}{15} + 12e^{-2} + 9e^{-4}\right) \pi$</p>	<p>6. Rotate the region bounded by $f(x) = 10 - 6x + x^2$; $g(x) = -10 + 6x - x^2$; $x = 1$ and $x = 5$ about the line $y = 8$.</p> <p style="color: red;">$\frac{896}{3} \pi$</p>
<p>7. Rotate the region bounded by $x = y^2 - 4$; $x = 6 - 3y$ about the line $x = 24$.</p> <p style="color: red;">$\frac{31556}{15} \pi$</p>	<p>8. Rotate the region bounded by $f(x) = 2x + 1$; $x = 4$ and $y = 3$ about the line $x = -4$.</p> <p style="color: red;">126π</p>