Non-Graphical Answers to Practice Exam 1 for the Final Exam

2. \[ \text{Area} = \int_{0}^{2\pi} \frac{1}{2} \left( \sqrt{2} + 2 \cos 2\theta \right)^2 \, d\theta = 4\pi \]

4. \[ \text{Area} = \int_{\frac{1}{2}}^{2} y(t)x'(t) \, dt = \frac{15}{16} - \ln 2 \]

5. \[ \text{Arclength} = \int_{-2}^{0} \sqrt{(x'(t))^2 + (y'(t))^2} \, dt = 8\sqrt{5} \]