

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

2.

$$\text{Area} = \int_0^{2\pi} \frac{1}{2} (\sqrt{2} + 2 \cos 2\theta)^2 d\theta = \boxed{4\pi}$$

4.

$$\text{Area} = \int_{\frac{1}{2}}^2 y(t)x'(t) dt = \boxed{\frac{15}{16} - \ln 2}$$

5.

$$\text{Arclength} = \int_{-2}^0 \sqrt{(x'(t))^2 + (y'(t))^2} dt = \boxed{8\sqrt{5}}$$