

Non-Graphical Answers to Practice Exam 3 for the Final Exam

2.

$$\text{Area} = \int_0^{2\pi} \frac{1}{2} (-5 + 3 \cos 3\theta)^2 d\theta = \boxed{\frac{59}{2}\pi}$$

4.

$$\text{Area} = \int_0^{\infty} y(t)x'(t) dt = \boxed{\frac{\pi}{2}}$$

5.

$$\text{Arclength} = \int_0^1 \sqrt{(x'(t))^2 + (y'(t))^2} dt = \boxed{\frac{13}{3}}$$