Mathematics I

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Exam 2
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1. Evaluate the integral.

$$\int \frac{dx}{1+4x^2}$$

2. Find the total area bounded by $y = \sin x$ and the x-axis between $0 \leq x \leq 3\pi$.

3. Sketch the curve $r = 3 + 2 \cos t$ and then find the area enclosed by it.

4. Sketch the graph given by the parametric equation.

$$y = t + 4$$
$$x = 2t - 3$$
$$-2 \leq t \leq 3$$