

Names: _____

1. **Trigonometric substitution** Compute the following integrals:

(a) $\int \frac{1}{\sqrt{4-x^2}} dx$

(b) $\int \frac{1}{x^2\sqrt{4x^2+16}} dx$

2. Find the area enclosed by the ellipse

$$\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1$$