Name_____ Date_____ Period_____

Worksheet 10.1—Trig Substitution
Show all work on a separate sheet of paper. No Calculator

Free Response & Short Answer

1. Evaluate $\int \frac{dx}{\sqrt{x^2+25}}$

2. Evaluate $\int \frac{dx}{x^2\sqrt{x^2-36}}$

Multiple Choice

3. When trigonometric substitution is used to evaluate $\int x^4\sqrt{1+x^2}\,dx$, which of the following integrals is obtained after the substitution?

(A) $\int \sec^4\theta\tan\theta\,d\theta$

(B) $\int \sin^4\theta\cos^2\theta\,d\theta$

(C) $\int \tan^4\theta\sec^3\theta\,d\theta$

(D) $\int \sin 4\theta\cos 2\theta\,d\theta$

(E) $\int \tan^2\theta\sec\theta\,d\theta$