1.(1 pt) Evaluate the definite integral.

$$\int_0^{16\sin(\frac{\pi}{5})} \frac{x^3}{\sqrt{256-x^2}}dx$$

[NOTE: Remeber to enter all necessary *, (, and) !!
Enter arctan(x) for $\tan^{-1}x$, sin(x) for $\sin x$ ...]

2.(1 pt) Evaluate the definite integral.

$$\int_0^{15} \frac{1}{\sqrt{196+x^2}}dx$$

[NOTE: Remeber to enter all necessary *, (, and) !!
Enter arctan(x) for $\tan^{-1}x$, sin(x) for $\sin x$ ...]

3.(1 pt) Evaluate the indefinite integral.

$$\int \frac{1}{x^2\sqrt{144-x^2}}dx$$

[NOTE: Remeber to enter all necessary *, (, and) !!
Enter arctan(x) for $\tan^{-1}x$, sin(x) for $\sin x$ ....]

4.(1 pt) Evaluate the indefinite integral.

$$\int \frac{\sqrt{81x^2-16}}{x}dx$$

[NOTE: Remeber to enter all necessary *, (, and) !!
Enter arctan(x) for $\tan^{-1}x$, sin(x) for $\sin x$...]

5.(1 pt) Evaluate the indefinite integral.

$$\int \sqrt{26x-x^2}dx$$

[NOTE: Remeber to enter all necessary *, (, and) !!
Enter arctan(x) for $\tan^{-1}x$, sin(x) for $\sin x$....]

6.(1 pt) Evaluate the indefinite integral.

$$\int \frac{44}{x^2\sqrt{36x^2-36}}dx$$

[NOTE: Remeber to enter all necessary *, (, and) !!
Enter arctan(x) for $\tan^{-1}x$, sin(x) for $\sin x$...]

7.(1 pt) Evaluate the indefinite integral.

$$\int \frac{43}{\sqrt{48-6x-9x^2}}dx$$

8.(1 pt) $\int \frac{1}{\sqrt{49-36x^2}}dx =$ _____ $+C$

WeBWorK notation for $\sin^{-1}(x)$ is arcsin(x) or asin(x), for $\tan^{-1}(x)$ it's arctan(x) or atan(x).

9.(1 pt) $\int \frac{1}{x^2+8x+97}\,dx =$ _____ $+C$

WeBWorK notation for $\sin^{-1}(x)$ is arcsin(x) or asin(x), for $\tan^{-1}(x)$ it's arctan(x) or atan(x).

10.(1 pt) For each of the indefinite integrals below, choose which of the following substitutions would be most helpful in evaluating the integral. Enter the appropriate letter (A,B, or C) in each blank. DO NOT EVALUATE THE INTEGRALS.

A. $x = 9\tan\theta$
B. $x = 9\sin\theta$
C. $x = 9\sec\theta$

— 1. $\int \sqrt{x^2-81}\,dx$
— 2. $\int (x^2-81)^{5/2}\,dx$
— 3. $\int x^2\sqrt{81+x^2}\,dx$
— 4. $\int \frac{dx}{(81-x^2)^{3/2}}$
— 5. $\int \frac{x^2\,dx}{\sqrt{81-x^2}}$

11.(1 pt) Match each of the trigonometric expressions below with the equivalent non-trigonometric function from the following list. Enter the appropriate letter (A,B,C,D, or E) in each blank.

A. $\tan(\arcsin(x/7))$
B. $\cos(\arcsin(x/7))$
C. $(1/2)\sin(2\arcsin(x/7))$
D. $\sin(\arctan(x/7))$
E. $\cos(\arctan(x/7))$

— 1. $\frac{\sqrt{49-x^2}}{7}$
— 2. $\frac{x}{\sqrt{49-x^2}}$
— 3. $\frac{x}{49}\sqrt{49-x^2}$
— 4. $\frac{7}{\sqrt{49+x^2}}$
— 5. $\frac{x}{\sqrt{49+x^2}}$

12.(1 pt) Evaluate the indefinite integral

$$\int \frac{x^{14}\,dx}{(16-x^2)^{17/2}}$$

13.(1 pt) Evaluate the definite integral

$$\int_0^{7\sqrt{3}/2} \sqrt{49-x^2}\,dx$$

14.(1 pt) Evaluate the indefinite integral

$$\int \frac{dx}{(36+x^2)^2}$$