

(1 point) Find the following indefinite integrals.

$$\int \frac{x}{\sqrt{x+7}} dx = \frac{2}{3}(x+7)^{3/2} - 14(x+7)^{1/2} + C$$

$$\int \frac{\cos(t)}{(7 \sin(t) + 3)^2} dt = -\frac{1}{7(7 \sin(t) + 3)} + C$$

(1 point)

Evaluate the integral

$$\int -6 \sec^2(x) \tan(x) dx$$

Note: Use an upper-case "C" for the constant of integration.

$$-3 \tan^2(x) + C$$

(1 point)

Evaluate the indefinite integral

$$\int 6 \cos(x) \sin^6(x) dx$$

Note: Any arbitrary constants used must be an upper-case "C".

$$-\frac{6}{7} \sin^7(x) + C$$

(1 point)

Evaluate the integral

$$\int 4 \sqrt{\frac{1+x}{1-x}} dx$$

Note: Use an upper-case "C" for the constant of integration.

$$4 \arcsin x - 4(1-x^2)^{1/2} + C$$

(1 point) Find the integral.

$$\int e^{7x} \sin(3x) dx = \frac{7}{58} e^{7x} \sin(3x) - \frac{3}{58} e^{7x} \cos(3x) + C$$

(1 point)

Evaluate the following integral:

$$\int_1^2 \frac{2 \ln(x)}{x^2} dx$$

$$-\ln 2 + 1$$

(1 point)

Evaluate the integral

$$\int \frac{6x^2 - 12x - 6}{(x-1)^2(x^2+1)} dx$$

Note: Use an upper-case "C" for the constant of integration.

$$6 \ln|x-1| + \frac{6}{x-1} - 3 \ln|x^2+1| + 6 \arctan x + C$$

(1 point)

Evaluate the integral

$$\int \frac{-1(x-9)}{(x+5)(x-2)} dx$$

Note: Use an upper-case "C" for the constant of integration.

$$-2 \ln|x+5| + \ln|x-2| + C$$