§8.3 (TRIG SUBSTITUTION)
§8.5 (PARTIAL FRACTIONS) NAME: _____
12 July 2018

Evaluate the integral using any technique we have learned so far.

(1) $\int \frac{1}{1+x^2}\,dx$

(2) $\int \ln(x)\,dx$

(3) $\int \sqrt{4x^2-1}\,dx$

(4) $\int \frac{x}{\sqrt{12-6x-x^2}}\,dx$

(5) $\int \sin^3(x)\cos^3(x)\,dx$

(6) $\int x \sec^2(x)\, dx$

(7) $\int \frac{1}{\sqrt{9-x^2}}\, dx.$

(8) $\int x^2\sqrt{x+1}\, dx$

(9) $\int \frac{1}{(x+1)(x+2)^3}\, dx$

(10) $\int \frac{1}{(x+12)^4}\, dx$

(11) $\int \frac{1}{\sqrt{x^2+9}}\,dx$

(12) $\int x\sqrt{x^2-5}\,dx.$

(13) $\int \frac{3x+5}{x^2-4x-5}\,dx$

(14) $\int e^{2x}\cos(x)\,dx$

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

(16) $\int \cos(x)\sin^5(x)\,dx$

(17) $\int \frac{1}{x(x-1)^2}\,dx$

(18) $\int \cos^2(4x)\,dx$

(19) $\int \frac{3}{(x+1)(x^2+x)}\,dx$

(20) $\int (\ln x + 1)\sqrt{(x\ln x)^2+1}\,dx$