

Thursday - November 19, 2015

$$\textcircled{12} \int x(x^2+3) dx$$

$$\int x^3 + 3x dx$$

$$\boxed{\frac{x^4}{4} + \frac{3x^2}{2} + C}$$

$$\textcircled{11} \int \frac{1}{x\sqrt{x}} dx \quad x^a \cdot x^b = x^{a+b}$$

$$\int \frac{1}{x^{\frac{3}{2}}} dx = \int x^{-\frac{3}{2}} dx$$

$$= \frac{x^{-\frac{1}{2}}}{-\frac{1}{2}} + C = \boxed{-\frac{2}{x^{\frac{1}{2}}} + C}$$

$$\textcircled{20} \int x^3 - 4x + 2 dx$$

$$\frac{x^4}{4} - \frac{4x^2}{2} + 2x + C$$

$$\boxed{\frac{x^4}{4} - 2x^2 + 2x + C}$$

$$\int \cos x - \cos x dx$$

$$\int 0 dx = C$$

$$(\sin x - \sin x) + C$$

$$\int \cos x dx$$

$$\sin x + C$$

4.1 HW Continued

P.249

22 - 42

$$\int \frac{1}{2\sqrt{x}} dx = \frac{1}{2} x^{\frac{1}{2}} + C$$

$$\textcircled{22} \int \sqrt{x} + \frac{1}{2\sqrt{x}} dx$$

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

$$\frac{x^{\frac{3}{2}}}{\frac{3}{2}} + \frac{\frac{1}{2} x^{\frac{1}{2}}}{\frac{1}{2}} + C = \frac{2}{3} x^{\frac{3}{2}} + x^{\frac{1}{2}} + C$$

$$\sin^2 x + \cos^2 x = 1$$

$-\cos^2 x \quad -\cos^2 x$

$$\boxed{\sin^2 x} = 1 - \cos^2 x$$

$$\frac{\cos x}{\sin x \cdot \sin x}$$

$$\int \cot x \csc x dx$$