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for home

$$\int_0^5 x\cdot(5-x)\,dx \to \frac{125}{6} \qquad \int_0^3 x^2\cdot(3-x)^3\,dx \to \frac{243}{20} \qquad \int_0^2 x^2\cdot(2-x)^5\,dx \to \frac{32}{21}$$

$$\int_1^2 \frac{1}{9-x^2}\,dx \to \frac{1}{6}\cdot\ln(5) - \frac{1}{6}\cdot\ln(2) \qquad \int_1^2 \frac{x}{9-x^2}\,dx \to \frac{-1}{2}\cdot\ln(5) + \frac{3}{2}\cdot\ln(2)$$

$$\int_3^4 \frac{1}{x^2-8x+12}\,dx \to \frac{-1}{4}\cdot\ln(3) \qquad \int_3^4 \frac{x}{x^2-8x+12}\,dx \to \ln(2) - \frac{3}{2}\cdot\ln(3)$$

$$\int_3^4 \frac{x^2}{x^2-8x+12}\,dx \to 1 + 8\cdot\ln(2) - 9\cdot\ln(3)$$

$$\int_1^2 \frac{1}{x+2}\,dx \to 2\cdot\ln(2) - \ln(3) \qquad \int_1^2 \frac{1}{x^2+4x+4}\,dx \to \frac{1}{12} \qquad \int_{-1}^1 \frac{1}{x^3+6x^2+12x+8}\,dx \to \frac{4}{9}$$

$$\int_0^2 \frac{1}{x^2+4}\,dx \to \frac{1}{8}\cdot\pi \qquad \int_{\frac{1}{2}}^{\frac{\sqrt{3}}{2}} \frac{1}{\sqrt{1-x^2}}\,dx \to \frac{1}{6}\cdot\pi$$

$$\int_0^2 \frac{x}{x^2+4}\,dx \to \frac{1}{2}\cdot\ln(2) \qquad \int_0^{\frac{1}{2}} \frac{x}{\sqrt{2-x^2}}\,dx \to \frac{-1}{2}\cdot 7^{\frac{1}{2}} + 2^{\frac{1}{2}}$$

$$\int_0^1 \frac{1}{x^2-x+1}\,dx \to \frac{2}{9}\cdot 3^{\frac{1}{2}}\cdot\pi \qquad \int_0^1 \frac{x}{x^2-x+1}\,dx \to \frac{1}{9}\cdot 3^{\frac{1}{2}}\cdot\pi$$

$$\int_0^{\pi} \sin(3x)\,dx \to \frac{2}{3} \qquad \int_0^{\frac{\pi}{2}} \cos(3x)\,dx \to \frac{-1}{3}$$

$$\int_0^{\frac{\pi}{2}} \cos(x)^2\,dx \rightarrow \frac{1}{4}\cdot\pi \qquad \int_0^{\frac{\pi}{2}} \sin(x)\cdot\cos(x)^5\,dx \rightarrow \frac{1}{6} \qquad \int_0^{\frac{\pi}{2}} \cos(x)^3\cdot\sin(x)^4\,dx \rightarrow \frac{2}{35}$$

$$\int_0^{\frac{\pi}{2}} \sin(x)\cdot\cos(x)^{123}\,dx \rightarrow \frac{1}{124} \qquad \int_0^{\frac{\pi}{2}} \sin(x)^3\cdot\cos(x)^2\,dx \rightarrow \frac{2}{15} \qquad \int_0^{\frac{\pi}{2}} \cos(x)^4\cdot\sin(x)^4\,dx \rightarrow \frac{3}{256}\cdot\pi$$

$$\int_{\frac{\pi}{6}}^{\frac{\pi}{4}} \frac{1}{\cos(x)^2}\,dx \rightarrow 1 - \frac{1}{3}\cdot 3^{\frac{1}{2}}$$

$$\int_{\frac{\pi}{6}}^{\frac{\pi}{4}} \frac{1}{\cos(x)}\,dx \rightarrow \ln\left(2^{\frac{1}{2}} + 1\right) - \frac{1}{2}\cdot\ln(3)$$

$$\int_0^{\pi} x\cdot\cos(x)\,dx \rightarrow -2 \qquad \int_0^{\pi} x^2\cdot\cos(x)\,dx \rightarrow -2\cdot\pi$$

$$\int_0^{1} x\cdot e^{-x}\,dx \rightarrow -2\cdot\exp(-1) + 1 \qquad \int_0^{1} x^2\cdot e^{-x}\,dx \rightarrow -5\cdot\exp(-1) + 2 \qquad \int_0^{1} x^3\cdot e^{-x}\,dx \rightarrow -16\cdot\exp(-1) + 6$$

$$\int_0^{\pi} \sin(x)\cdot e^{-x}\,dx \rightarrow \frac{1}{2}\cdot\exp(-\pi) + \frac{1}{2} \qquad \int_{-\pi}^{\pi} \cos(x)\cdot e^{-3x}\,dx \rightarrow \frac{3}{10}\cdot\exp(-3\cdot\pi) - \frac{3}{10}\cdot\exp(3\cdot\pi)$$

$$\int_1^{e} \cos(\ln(x))\,dx \rightarrow \frac{1}{2}\cdot\sin(1)\cdot\exp(1) + \frac{1}{2}\cdot\exp(1)\cdot\cos(1) - \frac{1}{2}$$

$$\int_0^{\sqrt[3]{\pi}} x^2\cdot\sin\left(x^3\right)\,dx \rightarrow \frac{2}{3} \qquad \int_1^{2} x^4\cdot\ln\left(x^5\right)\,dx \rightarrow 32\cdot\ln(2) - \frac{31}{5}$$

$$\int_1^{2} x\cdot\sin\left(x^2\right)\cdot e^{x^2}\,dx \rightarrow \frac{-1}{4}\cdot\exp(4)\cdot\cos(4) + \frac{1}{4}\cdot\sin(4)\cdot\exp(4) + \frac{1}{4}\cdot\exp(1)\cdot\cos(1) - \frac{1}{4}\cdot\sin(1)\cdot\exp(1)$$

$$\int_{\frac{-1}{\sqrt{3}}}^{1} \operatorname{atan}(x)\,dx \rightarrow \frac{1}{4}\cdot\pi + \frac{1}{2}\cdot\ln(2) - \frac{1}{18}\cdot 3^{\frac{1}{2}}\cdot\pi - \frac{1}{2}\cdot\ln(3) \qquad \int_{\frac{-1}{\sqrt{3}}}^{1} x\cdot\operatorname{atan}(x)\,dx \rightarrow \frac{13}{36}\cdot\pi - \frac{1}{2} - \frac{1}{6}\cdot 3^{\frac{1}{2}}$$

$$\int_{\frac{1}{\sqrt{3}}}^{\sqrt{3}} \frac{\sqrt{\operatorname{atan}(x)}}{1+x^2}\,dx \rightarrow \frac{2}{27}\cdot 3^{\frac{1}{2}}\cdot\pi^{\frac{3}{2}} - \frac{1}{54}\cdot 6^{\frac{1}{2}}\cdot\pi^{\frac{3}{2}}$$

$$\int_{\frac{1}{\sqrt{3}}}^{\sqrt{3}} \frac{x\cdot\operatorname{atan}\left(x^2\right)}{1+x^4}\,dx \rightarrow \frac{1}{4}\cdot\operatorname{atan}(3)^2 - \frac{1}{4}\cdot\operatorname{atan}\left(\frac{1}{3}\right)^2$$

$$\int_{\frac{1}{3}}^{3} \frac{\cos(x)\cdot\operatorname{atan}(\sin(x))}{\left(1+\sin(x)^2\right)}\,dx \rightarrow \frac{1}{2}\cdot\operatorname{atan}(\sin(3))^2 - \frac{1}{2}\cdot\operatorname{atan}\left(\sin\left(\frac{1}{3}\right)\right)^2$$

$$\int_{\frac{1}{\sqrt{2}}}^{1} \operatorname{asin}(x)\,dx \rightarrow \frac{1}{2}\cdot\pi - \frac{1}{8}\cdot 2^{\frac{1}{2}}\cdot\pi - \frac{1}{2}\cdot 2^{\frac{1}{2}}$$

$$\int_{\frac{1}{\sqrt{2}}}^{1} x\cdot\operatorname{asin}(x)\,dx \rightarrow \frac{1}{8}\cdot\pi - \frac{1}{8}$$

$$\int_{\frac{1}{2}}^{\frac{\sqrt{3}}{2}} \frac{\operatorname{asin}(x)^2}{\sqrt{1-x^2}}\,dx \rightarrow \frac{7}{648}\cdot\pi^3$$

$$\int_{0}^{\frac{3}{4}} \frac{x\cdot\operatorname{asin}\left(x^2\right)}{\sqrt{1-x^4}}\,dx \rightarrow \frac{1}{4}\cdot\operatorname{asin}\left(\frac{9}{16}\right)^2$$

die hard

$$\int_{0}^{1} x\cdot\ln(x)^2\,dx \rightarrow \frac{1}{4}$$

$$\int_{0}^{1} x^2\cdot\ln(x)^2\,dx \rightarrow \frac{2}{27}$$

$$\int_{0}^{1} x^3\cdot\ln(x)^2\,dx \rightarrow \frac{1}{32}$$

$$\int_{1}^{e} x\cdot\ln(x)^2\,dx \rightarrow \frac{1}{4}\cdot\exp(2) - \frac{1}{4}$$

$$\int_{1}^{e} x^2\cdot\ln(x)^2\,dx \rightarrow \frac{5}{27}\cdot\exp(3) - \frac{2}{27}$$