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$$5. \int \cos^{-1} 2x^2 dx = \ln |2\sqrt{(2x^2)^2 - 1 + 2x^2}| + x^2 \cos^{-1}(2x^2) + C$$

$$= \ln |2\sqrt{4x^4 - 1 + 2x^2}| + \frac{x^2}{\cos 2x^2} + C$$

$$= \ln |2\sqrt{5x^4}| + \frac{x^2}{\cos 2x^2} + C$$

$$6. \int \sin^{-1} \sqrt{2x^2} dx = \sqrt{1 - (\sqrt{2}x)^2} + \frac{x^2}{\sqrt{2}}$$

$$\sin^{-1}(\sqrt{2x^2}) + C$$

$$= \frac{\sqrt{1 - 2x^4}}{1.4} + \frac{x^2}{\sin \sqrt{2x^2}} + C$$

$$= \sqrt{1 - 2x^4} + \frac{x^2}{\sin \sqrt{2x^2}} + C$$



$$1. \int \sin^{-1} 3x^2 dx = \frac{\sqrt{1 - (3)^2(x^2)^2}}{3} * x \sin^{-1}(3x^2) + C$$

$$= \frac{\sqrt{1 - 9x^4}}{3} + x \sin^{-1} 3x^2 + C$$

$$2. \int \tan^{-1} 1/x^2 dx = x^2 \tan^{-1}(1/x^2) - \frac{\ln|(1)^2(x^2)^2 + 1|}{2(1)} + C$$

$$= x^2 \tan^{-1}(1/x^2) - \frac{\ln(2)(x^4) + 1}{2} + C$$

$$= \frac{x^2}{\tan^{-1} 1/x^2} - \frac{\ln|3x^4|}{2} + C$$

$$3. \int \cot^{-1} \sqrt{2}x dx = \frac{\ln(\sqrt{2}^2(x)^2 + 1)}{2(\sqrt{2})} + x \cot^{-1}(\sqrt{2}x) + C$$

$$= \frac{\ln|3x^2|}{2.82} + \frac{x}{\cot \sqrt{2}x} + C$$

$$4. \int \cos^{-1} 5x dx = x \cos^{-1}(5x) - \frac{\sqrt{1 - (5)^2(x)^2}}{5} + C$$

$$\frac{x}{\cos 5x} - \frac{\sqrt{1 - 25x^2}}{5} + C$$

$$\frac{x}{\cos 5x} - \sqrt{1/5 - 25x^2} + C$$