15. $u = \sin^{-1} x$, $dv = dx$, $du = 1/\sqrt{1-x^2}dx$, $v = x$;

$$\int \sin^{-1} x\, dx = x \sin^{-1} x - \int x/\sqrt{1-x^2}dx = x \sin^{-1} x + \sqrt{1-x^2} + C$$

16. $u = \cos^{-1}(2x)$, $dv = dx$, $du = -\dfrac{2}{\sqrt{1-4x^2}}dx$, $v = x$;

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

17. $u = \tan^{-1}(3x)$, $dv = dx$, $du = \dfrac{3}{1+9x^2}dx$, $v = x$;

$$\int \tan^{-1}(3x)dx = x\tan^{-1}(3x) - \int \frac{3x}{1+9x^2}dx = x\tan^{-1}(3x) - \frac{1}{6}\ln(1+9x^2) + C$$

18. $u = \tan^{-1} x$, $dv = x\,dx$, $du = \dfrac{1}{1+x^2}dx$, $v = \dfrac{1}{2}x^2$; $\displaystyle\int x\tan^{-1} x\, dx = \frac{1}{2}x^2\tan^{-1} x - \frac{1}{2}\int \frac{x^2}{1+x^2}dx$

but $\displaystyle\int \frac{x^2}{1+x^2}dx = \int \left(1 - \frac{1}{1+x^2}\right)dx = x - \tan^{-1} x + C_1$ so

$$\int x\tan^{-1} x\, dx = \frac{1}{2}x^2\tan^{-1} x - \frac{1}{2}x + \frac{1}{2}\tan^{-1} x + C$$