Integrals - class 3

Type-2 $\int f(ax+b)\,dx$

1, $\int e^{2x+3}\,dx = \int e^{u}\,\frac{du}{2}$ Put $2x+3=u$

$2\,dx=du$

$dx=\frac{du}{2}$

$= \frac{1}{2}\int e^{u}.du$

$= \frac{1}{2}e^{u}+c$

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

2, $\int \cos(4x+1)\,dx = \frac{\sin(4x+1)}{4}+c$

3, $\int \sin(3x+4)\,dx = -\frac{\cos(3x+4)}{3}+c$

4, $\int e^{3-2x}\,dx = \frac{e^{3-2x}}{-2}+c$

5, $\int \frac{1}{3x+2}\,dx = \frac{\log|3x+2|}{3}+c$

6, $\int \sec^2(4-2x)\,dx = \frac{\tan(4-2x)}{-2}+c$

7, $\int \sqrt{ax+b}\,dx = \frac{2(ax+b)^{3/2}}{3a}+c$

8, $\int \frac{1}{\sqrt{2x+3}}\,dx = \frac{2\sqrt{2x+3}}{2}+c$

9, $\int (5x+2)^4 dx = \frac{(5x+2)^5}{5\times 5} + c$

10, $\int \frac{1}{(3x+4)^2} dx = \frac{-1}{3(3x+4)} + c$

11, $\int \sec 7x \cdot \tan 7x \, dx = \frac{\sec 7x}{7} + c$

12, $\int \operatorname{cosec}^2(2-3x) dx = -\frac{\cot(2-3x)}{-3} + c$