

1.	1. If $I_n = \int \sin^n x \ dx$, then $nI_n - (n-1)I_{n-2}$ eq (1) $(\sin^{n-1} x)(\cos x)$	
	$(3) - \left(\sin^{n-1}x\right)(\cos x)$	
2	If the integral $\int bx \cos 4x - a \sin 4x$, $a \sin 4x$	

1. If $I_n = \int \sin^n x dx$, then $nI_n - (n-1)I_{n-2}$ equals	
$(1) \ \left(\sin^{n-1}x\right)(\cos x)$	$(2) \left(\cos^{n-1}x\right)(\sin x)$
$(3) - (\sin^{n-1} x)(\cos x)$ $(3) - (\sin^{n-1} x)(\cos x)$ $(4) - (\sin^{n-1} x)(\cos x)$ $(5) - (\sin^{n-1} x)(\cos x)$ $(6) - (\sin^{n-1} x)(\cos x)$ $(7) - (\sin^{n-1} x)(\cos x)$ $(8) - (\sin^{n-1} x)(\cos x)$ $(8) - (\sin^{n-1} x)(\cos x)$ $(9) - (\sin^{n-1} x)(\cos x)$	$(4) -(\cos^{n-1}x)(\sin x)$
2. If the integral $\int \frac{bx\cos 4x - a\sin 4x}{x^2} dx = \frac{a\sin 4x}{x} + c$, then the values of a and b	
(1) $a = 1, b = 4$	(2) $a = -1, b = 4$
	(4) $a = 1/4, b = 2$ // mathongo /// mathongo /// mathongo /// r
3. If $\int \sin^{-1}\left(\sqrt{\frac{x}{1+x}}\right) dx = A(x) \tan^{-1}(\sqrt{x}) + B(x) + C$, where C is a cons	tant of integration, then the ordered pair $(A(x)\ B(x))$ can be :
(1) $(x+1,-\sqrt{x})$ mathongo /// mathongo (3) $(x-1,-\sqrt{x})$	(2) $(x+1,\sqrt{x})$ /// mathongo /// mathongo /// mathongo /// r (4) $(x-1,\sqrt{x})$
4. The value of $\int e^{\tan^{-1}x} \cdot \frac{(1+x+x^2)}{1+x^2} dx$ is	
(1) $\tan^{-1} x + c$	(2) $e^{\tan^{-1}x} + c$ // mathongo // mathongo // mathongo // r
(3) $e^{\tan^{-1}x} - x + c$	(4) $xe^{\tan^{-1}x} + c$
5. $\int e^x \left[\frac{2+\sin 2x}{1+\cos 2x} \right] dx =$ mathongo /// mathongo /// mathongo	
(1) $e^x \tan x + C$	$(2) e^x + \tan x + C$
(3) $2e^x \tan x + C$ (4) mathons // mathons // mathons //	(4) $e^x \tan 2x + C$ mathongo /// mathongo /// mathongo /// mathongo
6. $\int \frac{e^x (1+\sin x)}{1+\cos x} dx \text{ is equal to :} $ mathongo // mathongo //	
$(1) e^x \tan\left(\frac{x}{2}\right) + c$	$(2) e^x \tan x + c$
(3) $e^x \left(\frac{1+\sin x}{1-\cos x}\right) + c$	(4) $c = e^x \cot\left(\frac{x}{2}\right)$ mathongo /// mathongo /// mathongo /// r
Evaluate: $\int \left\{ \frac{(\log x - 1)}{1 + (\log x)^2} \right\}^2 dx.$	
(1) $\frac{x}{x^2+2} + C$	(2) $\frac{\log x}{(\log x)^2+1} + C$ mathongo /// mathongo // mathongo /// mathongo /// mathongo /// mathongo /// mathongo // mathong
(3) $\frac{x}{(\log x)^2+1} + C$	(4) $\frac{xe^x}{1+x^2} + C$
8. Correct evaluation $\int \frac{x}{(x-2)(x-1)} dx$ is (where, P is an arbitrary constant)	///. mathongo ///. mathongo ///. mathongo ///. r
(1) $\log_e \frac{(x-2)^2}{(x-1)} + P$	(2) $\log_e \frac{(x-1)}{(x-2)} + P$
$\frac{\log_e}{(x-1)} + P$ mathongo /// mathongo /// mathongo	
()	(4) $2\log_e\left(\frac{x-2}{x-1}\right) + P$
9. Indefinite integral $\int \frac{(x^2+1)}{(x^2+2)(x^2+3)} dx$ equals:	//wmatheres /// markers /// mathongo /// mathongo /// r
(1) $\tan^{-1}\left(\frac{x^2}{\sqrt{2}}\right) + \tan^{-1}\left(\frac{x^2}{\sqrt{3}}\right)$	(2) $\frac{1}{2} \tan^{-1} \left(\frac{x}{\sqrt{2}} \right) + \tan^{-1} \left(\frac{x}{\sqrt{3}} \right)$
(3) $-\frac{1}{\sqrt{2}}\tan^{-1}\left(\frac{x}{\sqrt{2}}\right) + \frac{2}{\sqrt{3}}\tan^{-1}\frac{x}{\sqrt{3}}$	(4) $\sqrt{2} \tan^{-1} \left(\frac{x}{\sqrt{2}} \right) + \tan^{-1} \left(\frac{x}{\sqrt{3}} \right)$
10. $\frac{\max_{x^2+1} x^2}{(2x-1)(x^2-1)} = \frac{\max_{x^2+1} x^2}{x^2}$ mathongo /// mathongo	///. mathongo ///. mathongo ///. mathongo ///. mathongo ///. r
$(2x-1)$ (x^2-1) (1) $\frac{-5}{(2x-1)}$ $+\frac{3}{(2x-1)}$ $+\frac{1}{(2x-1)}$	$(2) \frac{-5}{2(2-2)} + \frac{1}{2(2-2)} + \frac{1}{2(2-2)}$
$(3) \frac{1}{2} + \frac{5}{2} + \frac{3}{2} = 0$ /// mathongo /// mathongo	(2) $\frac{-5}{3(2x-1)} + \frac{1}{3(x+1)} + \frac{1}{(x-1)}$ (4) None of these // mathongo /// mathongo /// mathongo /// r
(x-1) $(x-1)$	