

**Part One -Trigonometric Integrals**

Evaluate the following integrals :

(1) $\int \cos^7 x \, dx$	(2) $\int \sin^3 x \cos^2 x \, dx$	(3) $\int \sin^5 x \cos^3 x \, dx$
(4) $\int \frac{\cos^3 x}{\sqrt{\sin x}} \, dx$	(5) $\int \sin^2 2x \, dx$	(6) $\int \tan^3 x \sec^3 x \, dx$
(7) $\int \csc^4 x \cot^4 x \, dx$	(8) $\int \tan^3 x \sec^4 x \, dx$	(9) $\int \sec^4 x \, dx$
(10) $\int \cos x \cos 5x \, dx$	(11) $\int \sin 4x \cos 3x \, dx$	(12) $\int \sin 5x \sin 3x \, dx$
(13) $\int \cosh^3 x \sinh^2 x \, dx$	(14) $\int \tanh^3 x \operatorname{sech}^2 x \, dx$	

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**Part Two - Trigonometric substitutions**

Evaluate the following integrals :

(1) $\int \frac{\sqrt{4-x^2}}{x^2} \, dx$	(2) $\int \frac{1}{x\sqrt{9+x^2}} \, dx$	(3) $\int \frac{1}{x^2\sqrt{x^2-25}} \, dx$
(4) $\int \frac{1}{\sqrt{4x^2-25}} \, dx$	(5) $\int \frac{1}{(36+x^2)^2} \, dx$	(6) $\int \frac{1}{(16-x^2)^{\frac{5}{2}}} \, dx$
(7) $\int \frac{1}{(x^2-1)^{\frac{3}{2}}} \, dx$	(8) $\int \frac{x}{(16-x^2)^2} \, dx$	(9) $\int \frac{x}{x^2+9} \, dx$

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