Dirección General de Educación Tecnológica Industrial y de Servicios No.166

Centro de Estudios Tecnológicos Industrial y de Servicios No.166

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Guía de Estudios del Turno Matutino

Calculo Integral

DIRECCIÓN GENERAL DE EDUCACIÓN
TECNOLÓGICA INDUSTRIAL Y DE SERVICIOS

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Alumno: _____

Grupo: _____ No. de control: _____

$\int 9\,dx =$	$\int 2x^5\,dx =$	$\int (6x^5 - 10x^2 + 8x\ )\,dx =$
$\int 2\,dx =$	$\int x^{10}\,dx =$	$\int (2x^7 - 4x^3 + 11x\ )\,dx =$
$\int 50\,dx =$	$\int 8\,x^{40} =$	$\int (23x^5 - 41x^2 + 17)\,dx =$
$\int \frac{3}{4}\,dx =$	$\int 12x^{11} =$	$\int (5x^8 + 4x^3 + x)\,dx =$
$\int -7\,dx =$	$\int 6x^5 =$	$\int (x^4 - 4x^7 + x)\,dx =$
$\int -8\,dx =$	$\int 11x^7\,dx =$	$\int (15x^5 - 6x^2 + 4x)\,dx =$

$\int \frac{1}{4}x^2\,dx =$	$\int \sqrt[7]{x^2}\,dx =$	$\int \frac{9}{x^3}\,dx =$	$\int \frac{2}{3\sqrt[7]{x^3}} =$
$\int \frac{3}{4}x^3\,dx =$	$\int \sqrt[5]{x^4}\,dx =$	$\int \frac{7}{x^4}\,dx =$	$\int \frac{9}{2\sqrt[5]{x^3}} =$
$\int \frac{3}{7}x^2\,dx =$	$\int \sqrt[9]{x^2}\,dx =$	$\int \frac{5}{x^8}\,dx =$	$\int \frac{9}{2\sqrt[7]{x^2}} =$

Integrales definidas.

$\int_{4}^{7} (8x^2 - 7x + 20)\, dx =$	$\int_{2}^{5} (2 - 4x)\, dx =$	$\int_{0}^{3} 11\, dx =$
$\int_{1}^{3} (9x^2 + 15x + 7)\, dx =$	$\int_{-2}^{3} (10x + 1)\, dx =$	$\int_{-2}^{2} 30\, dx =$
$\int_{0}^{5} (7x^2 - 10x + 13)\, dx =$	$\int_{2}^{9} (2x^3 - 1)\, dx =$	$\int_{3}^{5} 18\, dx =$
$\int_{-2}^{2} (-5x + 2)\, dx =$	$\int_{2}^{3} (2x + 12)\, dx =$	$\int_{0}^{2} 3x^4 =$
$\int_{1}^{4} (3x^4 - 5x^3 + 2x - 7)\, dx =$	$\int_{2}^{3} (7x - 5)\, dx =$	$\int_{2}^{4} 5x^3\, dx =$

Resolver las siguientes áreas bajo la curva.

1. $Y = 2x^2 \quad con\ x_1 = 1, x_2 = 2$

2. $Y = -3x^2 + 2 \quad con\ x_1 = 0, x_2 = 3$

3. $Y = 12 \quad con\ x_1 = 1, x_2 = 5$

4. $Y = 8 \quad con\ x_1 = -1, x_2 = 3$

5. $Y = 3x + 1 \quad con\ x_1 = 2, x_2 =$

Resolver las siguientes integrales indefinidas de polinomios.

$\int (8X + 3)\, dx =$	$\int (6X + 3)7x^2\, dx =$	$\int (7x + 4)^2\, dx =$	$\int (6x + 73)^{14}\, dx =$
$\int (4X + 5)\, dx =$	$\int (9X + 30)6x^2\, dx =$	$\int (8x - 12)^{2\,dx} =$	$\int (8x + 3)^{20}\, dx =$
$\int (4X - 3)\, dx =$	$\int (10X + 8)2x^2\, dx =$	$\int (40x + 34)^2\, dx =$	$\int (4x + 15)^{20}\, dx =$

$\int (7X - 10)\, dx =$	$\int (4X + 3)5x^3\, dx =$	$\int (19 - 3x)^2\, dx =$	$\int (4x + 3)^8\, dx =$

$\int (4x + 3)^{20}\, 5\, dx =$	$\int (4x^2 + 3)^{20} x\, dx =$	$\int (8x + 3)^2 x\, dx =$	$\int (2x + 8)(4x - 11)\, dx =$
$\int (8x + 3)^{20}\, dx =$	$\int (12x^2 + 3)^2 3x\, dx$	$\int (4x - 10)^2 x\, dx =$	$\int (4x + 3)(2x + 1)\, dx =$
$\int (4x + 9)^{20}\, dx =$	$\int (4x^2 + 15)^{10} 4x\, dx$	$\int (9x + 29)^2 x\, dx =$	$\int (4x - 3)(2x - 1)\, dx =$
$\int (4x - 3)^{20} 12\, dx =$	$\int (21x^3 + 3)^{21} 3x^{2\, dx}$	$\int (2x + 1)^2 x\, dx =$	$\int (8x - 5)(20x + 4)\, dx =$
$\int (6x + 17)^5 2\, dx =$	$\int (4x^4 + 3)^{32} 3x^3\, dx$	$\int (4x + 3)^2 2x\, dx =$	$\int (40x + 9)(9x - 10)\, dx =$

Integrales indefinidas con división.

$\int \dfrac{16x^5 + 4x^4 - 12x^7}{4x^3}\, dx =$	$\int \dfrac{dx}{(2x - 7)^8} =$	$\int \dfrac{dx}{\sqrt[9]{(10x - 8)^5}} =$
$\int \dfrac{4x^8 + 8x^6 - 2x^{10}}{4x^4}\, dx =$	$\int \dfrac{dx}{(2x - 7)^{15}} =$	$\int \dfrac{dx}{\sqrt[9]{(10x - 8)^3}} =$
$\int \dfrac{2x^{15} + 10x^{40} - 3x^8}{2x^8}\, dx =$	$\int \dfrac{dx}{(2x - 7)^2} =$	$\int \dfrac{dx}{\sqrt[9]{(10x - 8)^4}} =$
$\int \dfrac{15x^5 + 45x^4 - 60x^7}{30x^4}\, dx =$	$\int \dfrac{dx}{(2x - 7)^3} =$	$\int \dfrac{dx}{\sqrt[9]{(10x - 8)^2}} =$

Utilizando du/u

$\int \dfrac{dx}{7x-2} =$	$\int \dfrac{4x^3\,dx}{5x^4-2} =$	$\int \dfrac{6x+6}{3x^2+6x-23}dx =$
$\int \dfrac{dx}{8x+13} =$	$\int \dfrac{10x^2\,dx}{11-2x^3} =$	$\int \dfrac{24x^2-9}{8x^2+9x-4}dx =$
$\int \dfrac{dx}{3-4x} =$	$\int \dfrac{3x\,dx}{2x^2+3} =$	$\int \dfrac{20x^4+11}{4x^5+11x+15}dx =$
$\int \dfrac{dx}{10-12x} =$	$\int \dfrac{5x^3\,dx}{8-3x^4} =$	$\int \dfrac{10x+13}{5x^2+13x-2}dx =$

Integrales trigonométricas Directas

$\int \sin 2x\,dx =$	$\int \cos 2x\,dx =$	$\int \sec^2 48x\,dx =$	$\int \csc^2 10x\,dx =$	$\int \sec 5x\,\tan 5x\,dx =$
$\int \sin 3x\,dx =$	$\int \cos 8x\,dx =$	$\int \sec^2 43x\,dx =$	$\int \csc^2 20x\,dx =$	$\int \sec 8x\,\tan 8\,dx =$
$\int \sin 11x\,dx =$	$\int \cos 12x\,dx =$	$\int \sec^2 38x\,dx =$	$\int \csc^2 30x\,dx =$	$\int \sec 3x\,\tan 3x\,dx =$
$\int \sin 13x\,dx =$	$\int \cos 16x\,dx =$	$\int \sec^2 33x\,dx =$	$\int \csc^2 40x\,dx =$	$\int \sec 9x\,\tan 9x\,dx =$
$\int \sin 17x\,dx =$	$\int \cos 20x\,dx =$	$\int \sec^2 28x\,dx =$	$\int \csc^2 50x\,dx =$	$\int \sec 4x\,\tan 4x\,dx =$

$\int \csc 8x\,\cot 8x\,dx$	$\int \csc 29x\,dx =$	$\int \sec 2x\,dx =$	$\int \cot 3x\,dx =$	$\int \tan 7x\,dx =$
$\int \csc 2x\,\cot 2x\,dx$	$\int \csc 92x\,dx =$	$\int \sec 4x\,dx =$	$\int \cot 6x\,dx =$	$\int \tan 14x\,dx =$
$\int \csc 9x\,\cot 9x\,dx$	$\int \csc 96x\,dx =$	$\int \sec 6x\,dx =$	$\int \cot 9x\,dx =$	$\int \tan 21x\,dx =$

$\int \csc 5x \cot 5x\, dx$	$\int \csc 15x\, dx =$	$\int \sec 8x\, dx =$	$\int \cot 12x\, dx =$	$\int \tan 28x\, dx =$

$\int \dfrac{dx}{\sqrt{81-25x^2}}$	$\int \dfrac{dx}{121x^2+9}$	$\int \dfrac{dx}{4x\sqrt{16x^2-9}}$	$\int \dfrac{dx}{841-100x^2}$	$\int \dfrac{dx}{x^2-2}$	$\int \dfrac{dx}{\sqrt{4x^2-1}}$
$\int \dfrac{dx}{\sqrt{16-49x^2}}$	$\int \dfrac{dx}{4x^2+13}$	$\int \dfrac{dx}{3x\sqrt{9x^2-25}}$	$\int \dfrac{dx}{729-784x^2}$	$\int \dfrac{dx}{9x^2-4}$	$\int \dfrac{dx}{\sqrt{x^2-16}}$
$\int \dfrac{dx}{\sqrt{25-121x^2}}$	$\int \dfrac{dx}{196x^2+4}$	$\int \dfrac{dx}{x\sqrt{x^2-121}}$	$\int \dfrac{dx}{169-9x^2}$	$\int \dfrac{dx}{16x^2-9}$	$\int \dfrac{dx}{\sqrt{9x^2-4}}$
$\int \dfrac{dx}{\sqrt{49-144x^2}}$	$\int \dfrac{dx}{225x^2+16}$	$\int \dfrac{dx}{6x\sqrt{36x^2-16}}$	$\int \dfrac{dx}{144-10x^2}$	$\int \dfrac{dx}{25x^2-1}$	$\int \dfrac{dx}{\sqrt{49x^2-25}}$
$\int \dfrac{dx}{\sqrt{100-225x^2}}$	$\int \dfrac{dx}{100x^2+25}$	$\int \dfrac{dx}{7x\sqrt{49x^2-4}}$	$\int \dfrac{dx}{81-x^2}$	$\int \dfrac{dx}{36x^2-25}$	$\int \dfrac{dx}{\sqrt{36x^2-81}}$

Resolver las integrales logarítmicas y exponenciales.

$\int e^{-5x}\, dx =$	$\int e^{2x^3+7}6x^2\, dx =$	$\int (e^{16x}-17x^{10}-11)\, dx =$	$\int (13e^{2x}+2)^2\, dx =$
$\int e^{7x/2}\, dx =$	$\int e^{5x^4-8}x^3\, dx =$	$\int (e^{23x}+42)\, dx =$	$\int (9e^{37x}-14)^2\, dx =$
$\int e^{x/50}\, dx =$	$\int e^{3x^5-9}2x^4\, dx =$	$\int \left(\dfrac{3}{4}x+e^{-4x}\right) dx =$	$\int (5e^{76x}-17)^2\, dx =$
$\int e^{x/5}\, dx =$	$\int e^{2x^3+7}6x^2\, dx =$	$\int \left(\dfrac{1}{2}x-e^{-5x/3}\right) dx =$	$\int (16e^{200x}-3)^2\, dx =$

$\int \dfrac{5\,dx}{e^{3x}} =$	$\int e^{\tan 4x}\sec^2 4x\, dx =$	$\int 5^x\, dx =$	$\int 8^{4x^2}8x\, dx =$

$\int \dfrac{15\,dx}{e^{8x}} =$	$\int e^{\tan 5x}\sec^2 4x\ dx =$	$\int 12^{3x}\,dx =$	$\int 2^{5x^2}10x\,dx =$
$\int \dfrac{11\,dx}{e^{9x}} =$	$\int e^{\cot 12x}\csc^2 12x\ dx =$	$\int 2^{8x}\,dx =$	$\int 3^{5x^2}x\,dx =$
$\int \dfrac{19\,dx}{e^{12x}} =$	$\int e^{\cot 8x}\csc^2 8x\ dx =$	$\int 3^{10x}\,dx =$	$\int 9^{10x^2}x\,dx =$

Resolver las integrales utilizando integración por partes.

$\int 10x\sin 8x\,dx =$	$\int 11x\csc^2 7x\,dx =$	$\int 15xe^{8x}\,dx =$	$\int 18x\sqrt{9x+8}\,dx =$
$\int 9x\cos 11x\,dx =$	$\int 15x\sec^2 2x\,dx =$	$\int 9xe^{100x}\,dx =$	$\int 15x\sqrt{14+3x}\,dx =$
$\int 10x\cos 7x\,dx =$	$\int 17x\csc^2 4x\,dx =$	$\int 24xe^{13x}\,dx =$	$\int 8x\sqrt{11x+7}\,dx =$
$\int 14x\sin 45x\,dx =$	$\int 21x\sec^2 20x\,dx =$	$\int 36xe^{62x}\,dx =$	$\int 3x\sqrt{8-5x}\,dx =$
$\int 42x\sin 16x\,dx =$	$\int 27x\csc^2 40x\,dx =$	$\int 42xe^{81x}\,dx =$	$\int x\sqrt{20x+33}\,dx =$

Resolver las integrales trigonométricas.

$\int \cos^2 2x\,dx =$	$\int \sin^2 7x\cos^2 7x\,dx =$	$\int \sin^2 3x\cos^2 3x\,dx =$
$\int \cos^2 7x\,dx =$	$\int \sin^2 10x\cos^2 10x\,dx =$	$\int \sin^6 6x\cos 6x\,dx =$
$\int \operatorname{sen}^2 9x\,dx =$	$\int \sin^2 13x\cos^2 13x\,dx =$	$\int \cos^{12} 9x\sin 9x\,dx =$
$\int \cos^2 11x\,dx =$	$\int \sin^2 8x\cos^2 8x\,dx =$	$\int \cos^5 12x\operatorname{sen} 12x\,dx =$
$\int \operatorname{sen}^2 13x\,dx =$	$\int \sin^2 20x\cos^2 20x\,dx =$	$\int \sin^{17} 15x\cos\ 15x\,dx =$

$\int \sin^8 2x \cos 2x \, dx =$	$\int \cos^{100} 20x \sin 20x \, dx =$	$\int \tan^5 39x \sec^2 39x \, dx =$
$\int \sin^{12} 5x \cos 5x \, dx =$	$\int \cos^{90} 18x \sin 18x \, dx =$	$\int \tan^{10} 35x \sec^2 35x \, dx =$

$\int \cot^8 20x \sec^2 20x \, dx =$	$\int \sec^{10} 18x \sec 18x \tan 18x \, dx$	$\int \csc^{14} 19x \csc 19x \cot 19x \, dx$
$\int \cot^{10} 18x \sec^2 18x \, dx =$	$\int \sec^{13} 17x \sec 17x \tan 17x \, dx$	$\int \csc^{19} 17x \csc 17x \cot 17x \, dx$

$\int \dfrac{1}{\sin 6x} dx =$	$\int \dfrac{1}{\cos 7x} dx =$	$\int \dfrac{1}{\tan 5x} dx =$	$\int \dfrac{1}{\cot 5x} dx =$
$\int \dfrac{1}{\sin 10x} dx =$	$\int \dfrac{1}{\cos 11x} dx =$	$\int \dfrac{1}{\tan 8x} dx =$	$\int \dfrac{1}{\cot 6x} dx =$

$\int \dfrac{1}{\sec 7x} dx =$	$\int \dfrac{1}{\csc 12x} dx =$	$\int \dfrac{1}{\sin^2 19x} dx =$	$\int \dfrac{1}{\cos^2 8x} dx =$
$\int \dfrac{1}{\sec 9x} dx =$	$\int \dfrac{1}{\csc 16x} dx =$	$\int \dfrac{1}{\sin^2 17x} dx =$	$\int \dfrac{1}{\cos^2 13x} dx =$