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Parcial Corto Semana 15

1. $\int_{-2}^{3}(x^4+6x)dx$

$$\frac{x^{4+1}}{4+1}+\frac{6x^{1+1}}{1+1}=\frac{x^5}{5}+\frac{6x^2}{2}=\frac{x^5}{5}+3x^2$$

$$\frac{x^5}{5}+3x^2\Big|_{-2}^{3}$$

$$\left(\frac{(3)^5}{5}+3(3)^2\right)-\left(\frac{(-2)^5}{5}+3(-2)^2\right)$$

$$\left(\frac{243}{5}+27\right)-\left(\frac{-32}{5}+12\right)$$

$$48.60+27-6.40-12$$

$$75.60-5.60$$

$$=70$$

R// 70

2. $\int_{0}^{2}(5e^x+10-\frac{7}{2}x)dx$

$$10-\frac{1}{2}x=\frac{20}{2}-\frac{1}{2}=\frac{19}{2}x$$

$$\left(5e^x+\frac{19}{2}x\right)dx$$

$$\left(5e^2+\frac{19}{2}(2)\right)-\left(5e^0+\frac{19}{2}(0)\right)$$

$$36.95+9.50(2)-5+0$$

$$36.95+19-5$$

$$=50.95$$

R// 50.95

3. $\int_1^3 (x+y)\,dy$

$$xy + \frac{y^{1+1}}{1+1} = xx + \frac{y^2}{2}$$

$$\begin{cases} 3 \\ 1 \end{cases} = \left(x(3) + \frac{(3)^2}{2}\right) - \left(x(1) + \frac{(1)^2}{2}\right)$$

$$3x + \frac{9}{2} - x + \frac{1}{2}$$

$$\frac{9}{2} + \frac{1}{2} = \frac{18-2}{4} = \frac{16}{4} = \frac{8}{2}$$

$$3x + \frac{8}{2} - x$$

$$= 2x + 4$$

$$2 \parallel 2x + 4$$