Tarea: Ejercicios de Cálculo, 1

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1.Calcula

$$\lim_{x\to 2} \frac{x^2+2x-8}{x-2} = 6$$

2.Calcula

$$\lim_{x\to(\pi/2)^+} \sec(x) = -Infinity$$

3.Calcula

$$\lim_{x\to(\pi/2)^-} \sec(x) = +Infinity$$

4.Calcula

$$\frac{d}{dx}[x^2 e^{3x}\cos(2x)] =$$
$$= 3x^2\cos(2x)e^(3x) - 2x^2 e^(3x)\sin(2x) + 2x\cos(2x)e^(3x)$$

5.Calcula

$$\frac{d}{dt}[\frac{t^2+1}{t-2}] = \frac{2t}{(t-2)} - \frac{(t^2+1)}{(t-2)^2}$$

6.Calcula

$$\frac{d}{dy}[x\cos(x)] = -y\sin(y) + \cos(y)$$

7.Calcula

$$\int \frac{x+1}{x^2+2x+1}\,dx = \frac{1}{2}\log(x^2+2x+1)$$

8.Calcula

$$\int_{-\pi/4}^{\pi/4} \sec(x)\,dx = \log(\frac{1}{2}\sqrt(2)+1) - \log(\frac{-1}{2}\sqrt(2)+1)$$

9.Calcula

$$\int xe^{-x^2}\,dx = \frac{-1}{2}e^{-x^2}$$