

$$= \frac{2}{1}$$

$$= \frac{2}{1} \left(\frac{1}{2} \frac{d}{dx} - \frac{1}{2} \right)$$

$$= \frac{2}{1} \frac{d}{dx} \left(\frac{1}{2} \right)$$

$$\boxed{C + \ln(4x^2 + 9) + \frac{8}{1}} =$$

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$$\frac{8}{1} \int \frac{1}{du} =$$

$$\frac{8}{1} \int \frac{1}{du} = \int \frac{8}{4x^2 + 9} dx$$

$$\frac{8}{1} = \frac{du}{dx}$$

$$du = 8x dx$$

$$\text{Let } u = 4x^2 + 9$$

$$1. \int \frac{8}{4x^2 + 9} dx \quad (5 \text{ points})$$