

1. Evaluate the indefinite integral  $\int \cos(8x+4)dx$

$$\text{Let } u = 8x + 4$$

$$du = 8dx$$

$$\int \cos(8x+4) dx = \frac{1}{8} \int \underbrace{\cos(8x+4)}_u \cdot \underbrace{8 dx}_{du}$$

$$= \frac{1}{8} \int \cos(u) du = \frac{1}{8} \sin(u) + C$$

$$= \frac{1}{8} \sin(8x+4) + C$$