

$$\begin{aligned}
 & 4) \int \cos(7x+5) dx & u &= 7x+5 \\
 & * & du &= 7dx \\
 & \int (\cos u) \cdot \frac{1}{7} du & \frac{1}{7} du &= dx \\
 & = \frac{1}{7} \sin u + C = \frac{1}{7} \sin(7x+5) + C
 \end{aligned}$$

$$\begin{aligned}
 & 5) \int x^2 (\sin(x^3)) dx & u &= x^3 \\
 & * & du &= 3x^2 dx \\
 & \frac{1}{3} \int \sin u du & \frac{1}{3} du &= x^2 dx \\
 & = -\frac{1}{3} \cos u + C = -\frac{1}{3} \cos x^3 + C
 \end{aligned}$$

$$\begin{aligned}
 & 6) \int \sin^4 x \cdot \cos x dx & u &= \sin x \\
 & * & du &= \cos x dx \\
 & \int u^4 du = \frac{1}{5} u^5 + C \\
 & = \frac{1}{5} (\sin^5 x) + C
 \end{aligned}$$