10. $\int_0^2 \frac{dx}{\sqrt{9-x^2}}$

$= \int_0^2 \frac{dx}{\sqrt{(3)^2-(x)^2}}$

$a=3 \quad u=x \quad du=dx$

$= \int_{x=0}^{x=2} \frac{1}{\sqrt{a^2-u^2}}\,du$

$= \left[\arcsin \frac{u}{a}\right]_{x=0}^{x=2}$

$= \left[\arcsin \frac{x}{3}\right]_{x=0}^{x=2}$

$= \arcsin \frac{2}{3} - \arcsin \frac{0}{3}$

$= \arcsin \frac{2}{3} - \arcsin 0$

$= \arcsin \frac{2}{3} - 0$

$= \boxed{\arcsin \frac{2}{3}}$

$\theta = \arcsin 0$

$\sin\theta = \sin(\arcsin 0)$

$\sin\theta = 0$