8. $\int \frac{5x-1}{\sqrt{1-x^2}}\,dx$ $\quad u = 1-x^2$ $\quad du = -2x\,dx$

$= \int \frac{5x}{\sqrt{1-x^2}}\,dx - \int \frac{1}{\sqrt{1-x^2}}\,dx$

$u = 1-x^2 \quad du = -2x\,dx$

$= 5 \cdot \frac{-1}{2}\int \frac{-2x}{\sqrt{1-x^2}}\,dx - \int \frac{1}{\sqrt{(1)^2-(x)^2}}\,dx$

$a = 1 \quad w = x \quad dw = dx$

$= -\frac{5}{2}\int \frac{1}{\sqrt{u}}\,du - \int \frac{1}{\sqrt{a^2-w^2}}\,dw$

$= -\frac{5}{2}\int \frac{1}{u^{1/2}}\,du - \arcsin\frac{w}{a} + C$

$= -\frac{5}{2}\int u^{-\frac{1}{2}}\,du - \arcsin\frac{x}{1} + C$

$= -\frac{5}{2} \cdot \frac{u^{-\frac{1}{2}+1}}{-\frac{1}{2}+1} - \arcsin x + C$

$= -\frac{5}{2} \cdot \frac{u^{\frac{1}{2}}}{\frac{1}{2}} - \arcsin x + C$

$= -\frac{5}{2} \cdot \frac{2}{1} \cdot u^{\frac{1}{2}} - \arcsin x + C$

$= -5\sqrt{u} - \arcsin x + C$

$= \boxed{-5\sqrt{1-x^2} - \arcsin x + C}$