

$$20. \int \frac{x+1}{\sqrt{1-x^2}} dx = \int \frac{x}{\sqrt{1-x^2}} dx + \int \frac{1}{\sqrt{1-x^2}} dx$$

$$= \int \frac{-1}{2\sqrt{1-x^2}} \cdot -2x dx + \int \frac{1}{\sqrt{1-x^2}} dx$$

$$= \int \frac{-1}{2} u^{-1/2} du + \int \frac{1}{\sqrt{1-x^2}} dx$$

$$= \frac{-u^{1/2}}{2(1/2)} + \sin^{-1} x$$

$$= \frac{-\sqrt{1-x^2}}{2(1/2)} + \sin^{-1} x + C = -\sqrt{1-x^2} + \sin^{-1} x + C$$

in the first integral:
substitution $u=1-x^2$
 $du = -2x dx$