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$$(1) \quad y = \sqrt[3]{x^2+x+1}$$
$$= (x^2+x+1)^{\frac{1}{3}}$$

$$y' = \frac{1}{3} (x^2+x+1)^{\frac{1}{3}-1} (x^2+x+1)'$$

$$= \frac{1}{3} (x^2+x+1)^{-\frac{2}{3}} (2x+1)$$

$$= \frac{2x+1}{3 (x^2+x+1)^{\frac{2}{3}}}$$

$$y' = \frac{2x+1}{3 \sqrt[3]{(x^2+x+1)^2}}$$

$$(2) \quad y = \frac{1}{\sqrt{1-x^2}}$$

$$y' = - \frac{(\sqrt{1-x^2})'}{(\sqrt{1-x^2})^2}$$

$$= - \frac{\frac{1}{2\sqrt{1-x^2}} \cdot (1-x^2)'}{1-x^2}$$

$$= - \frac{\frac{1}{2\sqrt{1-x^2}} \cdot (-2x)}{1-x^2}$$

$$= \frac{\frac{x}{\sqrt{1-x^2}}}{1-x^2}$$

$$y' = \frac{x}{(1-x^2)\sqrt{1-x^2}}$$