

$$\textcircled{11} \int_0^{1/2} \frac{2x}{\sqrt{1-x^2}} dx \quad u=1-x^2$$

$$du = -2x dx$$

$$- \int \frac{du}{\sqrt{u}}$$

$$- \int u^{-1/2} du$$

$$- 2 u^{1/2}$$

$$- 2 \sqrt{1-x^2} \Big|_0^{1/2}$$

$$- 2 \sqrt{3/4} + 2 \sqrt{1}$$

$$- \frac{2\sqrt{3}}{2} + 2$$

$$\boxed{-\sqrt{3} + 2}$$

$$\textcircled{12} \int_0^{\sqrt{3}} \frac{dx}{\sqrt{4-x^2}}$$

$$a=2 \quad u=x$$

$$\arcsin \frac{x}{2} \Big|_0^{\sqrt{3}}$$

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

$$\arcsin \frac{\sqrt{3}}{2}$$

$$\boxed{\frac{\pi}{3}}$$