

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

$$= \int \sqrt{y} \cdot \frac{1}{2} \, dy$$

$$= \frac{1}{2} \int y^{\frac{1}{2}} \, dy$$

$$= \frac{1}{2} \cdot \frac{2}{3} y^{\frac{3}{2}} + C$$

$$= \frac{1}{3} \sqrt{x^2 - 1} + C$$

| subst. $y = x^2 - 1$

$$dy = 2x \, dx$$

$$\frac{1}{2} dy = x \, dx$$

| Rücksubst