

some not-so-basic substitution problems

1.

$$\int \frac{x}{\sqrt{x+2}} dx =$$

2.

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

3.

$$\int \frac{x^3}{\sqrt{x^2-1}} dx =$$

4.

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

5.

$$\int \sin^3 x \cos x \, dx =$$

6.

$$\int \tan x \sec^2 x \, dx =$$

7.

$$\int \frac{3x^2}{x^6 + 1} \, dx =$$

8.

$$\int \frac{2}{x\sqrt{x^4 - 1}} \, dx =$$