

## 5.8 – $u$ -Substitution, Part II

Integrate.

1.  $\int \tan 4\alpha \, d\alpha$

2.  $\int x\sqrt{3x-2} \, dx$

$$3. \int_0^{2\pi} \cos\left(\frac{\theta}{4}\right) d\theta$$

$$4. \int_e^{e^2} \frac{\ln x}{x} dx$$

$$5. \int_0^4 \frac{x dx}{\sqrt{1+2x}}$$

$$6. \int \frac{4 dt}{1-t}$$

$$7. \int_{-1}^0 \frac{x}{\sqrt{3-x^2}} dx$$

$$8. \int_0^a \frac{e^x}{e^x+1} dx$$

For the true math nerd:  $\int \frac{\sqrt{x}}{\sqrt{x}+1} dx$