1. Make the substitution $u = \cos(x)$ to find

$$\int \tan(x)\,dx = \int \frac{\sin(x)}{\cos(x)}\,dx.$$

2. Find the antiderivative

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

What substitution should we use?

3. Find the definite integral,

$$\int_0^1 \frac{1}{(2+3u)^2}\,du.$$

Use the substitution $v = 2 + 3u$.