Matlab notes for Math 160 HW #2

Matlab uses log(x) for the natural log (ln(x)) and log10(x) for the log with base 10. The program also uses exp(x), not e^x.

If matlab cannot find an antiderivative on its own, you might be successful after substituting.

```
syms u x
int((sec(x))^2*(tan(x))^2/sqrt(9-(tan(x))^2),x)
```

```
ans =
```

$$\int \frac{\tan(x)^2}{\cos(x)^2\ \sqrt{9-\tan(x)^2}}\,dx$$

Substitute u for tan(x)

```
I=int(u^2/sqrt(9-u^2),u)
```

```
I =
```

$$\frac{9\ \mathrm{asin}\left(\frac{u}{3}\right)}{2}-\frac{u\ \sqrt{9-u^2}}{2}$$

Back substitute to get the final answer.

```
subs(I,u,tan(x))
```

```
ans =
```

$$\frac{9\ \mathrm{asin}\left(\frac{\tan(x)}{3}\right)}{2}-\frac{\tan(x)\ \sqrt{9-\tan(x)^2}}{2}$$