

## Math 129-8H Written Homework #4

Due September 24, in class.

1. 7.4, numbers 24, 28, 52, 56
2. Recall the elliptic function

$$F(x) = \int_0^x \sqrt{1 - 4 \sin^2 t} dt.$$

Using a trig substitution for  $u$ , show that

$$F(x) = \int_0^{2 \sin x} \sqrt{\frac{1 - u^2}{4 - u^2}} du.$$

Then check your answer by doing a substitution for  $t$ .