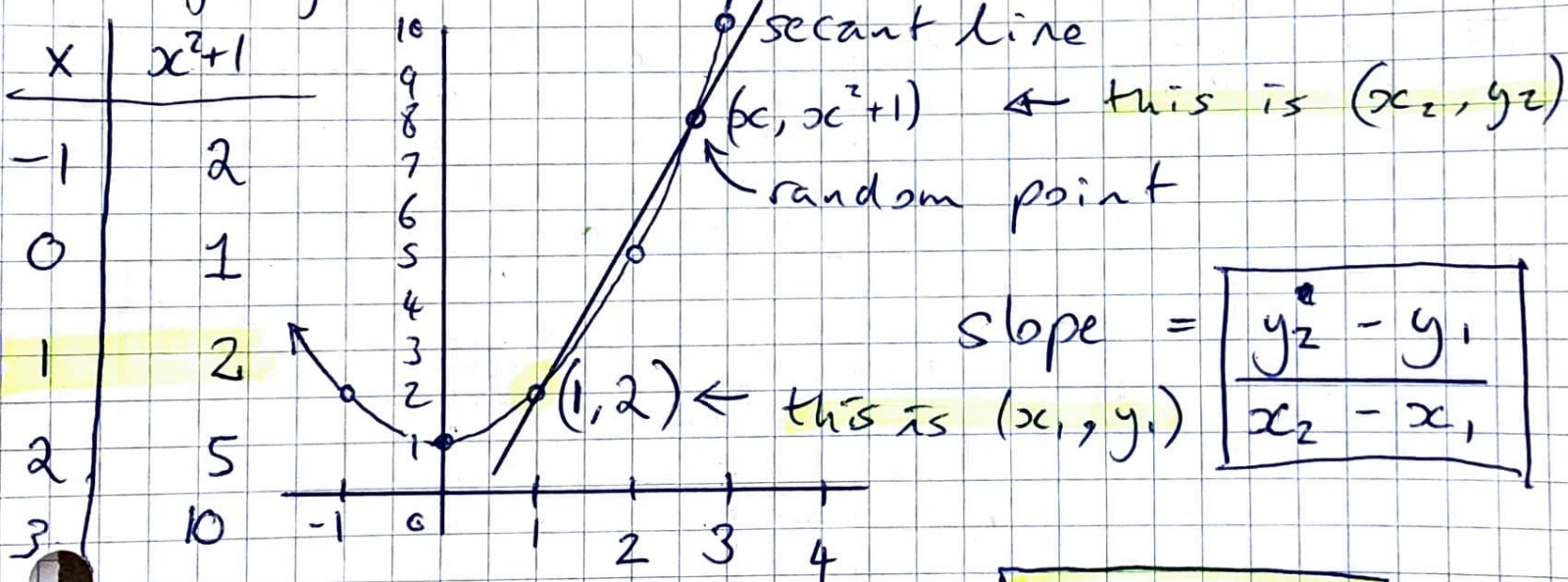


Secant Line Notes

CALC, week 3

Example 1

- Find the SLOPE of the secant line of $f(x) = x^2 + 1$ evaluated @ $x = 1$



$$\text{slope} = \frac{y_2 - y_1}{x_2 - x_1}$$

$$\text{slope} = \frac{(x^2 + 1) - 2}{x - 1}$$

$$= \frac{x^2 - 1}{x - 1}$$

can we simplify y?

Yes! (and no?)

$$\frac{x^2 - 1}{x - 1} = \frac{(x + 1)(\cancel{x - 1})}{\cancel{x - 1}}$$

$$= x + 1$$

HOWEVER, our function has a HOLE in it @ $x = 1, y = 2$