

## Practice Problems about Functions.

( $\iota = \text{iota}$ ,  $\nu = \text{nu}$ )

(1) Let  $F : \mathbb{R} \rightarrow \mathbb{R}$  be the squaring function. This is the function that is usually written  $F(x) = x^2$ .

(a) What is  $\text{dom}(F)$ ?

(b) What is  $\text{cod}(F)$ ?

(c) What is  $\text{im}(F)$ ?

(d) What is  $\text{coim}(F)$ ?

(e) If  $\iota : \text{im}(F) \rightarrow \text{cod}(F)$  is the inclusion map, what is  $F(0)$ ?

(f) If  $\nu : \text{dom}(F) \rightarrow \text{coim}(F)$  is the natural map, what is  $F(0)$ ?

(2) Repeat all the above for the function  $G(x) = x + 1$ .