

MATH 120 In-class Activity

Day 14

If you complete an activity before the end of its allotted time, work together to think about how you might push the ideas further. Alternatively, come up with different questions of a similar type to make sure you understand that learning objective more deeply.

Question 1. In Video 2.2A we saw the *divide* function for two real numbers. Now consider a new *divide* function that takes in two positive integer inputs.

- (a) Determine the domain of this new *divide* function.
- (b) Determine the codomain of this new *divide* function.
- (c) Determine the range of this new *divide* function.
- (d) Why is this not the same function as the function in the video?

Question 2. Consider the function “Determine this person’s birth mother.”.

- (a) Determine the domain of the function.
- (b) Determine the codomain of the function.
- (c) Determine the range of the function
- (d) Is the range of this function a **proper** subset of the codomain of this function?
- (e) Will everyone’s answer to part (d) be the same?

Question 3. Consider the function “Determine where you are when you take two steps forward”.

(a) What does an output of this function look like?

(b) Determine the codomain of this function.

(c) The output of the function depends on **two** inputs. What are they?

(d) Determine the domain of this function.

Question 4. Consider the power set operator \mathcal{P} .

When it is applied to sets containing natural numbers, \mathcal{P} is a function!

(a) What is the domain of \mathcal{P} ?

(b) What is a codomain of \mathcal{P} ?

(c) What is the range of \mathcal{P} ?