

MATH 147 Review: Surjectivity and Injectivity

1. Let $X = \{a, b, c\}$ and let $Y = \{7, 11, 13, 17, 25, 32\}$. Let f be an injection from X to Y . If $f(a) = 7$ and $f(b) = 17$, then what is the sum of all the elements of Y that can possibly be the value of $f(c)$?

Solution:

$$11 + 13 + 25 + 32 = 81$$

2. Let $X = \{-2, -1, 0, 1, 2\}$. Let Y be a set, and let f be a surjection from X to Y where

$$f(x) = x + 4.$$

What is the sum of all the elements of Y ?

Solution:

$$2 + 3 + 4 + 5 + 6 = 20$$