

Solution by Ye Wang

Written Homework 1 Solution:

Q1 (11 pts):

CL+ $(+ x y)$;the result is in the same number set with x & y

CLx $(* x y)$;the result is in the same number set with x & y

CO+ $(\text{equal? } (+ x y) (+ y x))$;or use “=”

COx $(\text{equal? } (* x y) (* y x))$;or use “=”

A+ $(\text{equal? } (+ x (+ y z)) (+ (+ x y) z))$;or use “=”

A* $(\text{equal? } (* x (* y z)) (* (* x y) z))$;or use “=”

D $(\text{equal? } (* x (+ y z)) (+ (* x y) (* x z)))$

ID+ $(\text{equal? } (+ x 0) x)$;0 is in the same number set with x

IDx $(\text{equal? } (* x 1) x)$;1 is in the same number set with x

IV+ $(\text{equal? } (+ x -x) 0)$; x & $-x$ are in the same number set not valid Scheme, -HF

IV* $(\text{equal? } (* x (/ 1 x)) 1)$; x & $(/ 1 x)$ are in the same number set

Q2 (15 pts):

Q & **C** are fields

R⁺: ID+ & IV+ don't work

Z: IVx doesn't work

{imaginary number}: CLx , IDx & IVx don't work

Q3 (14 pts)

x	f(x)
-10	21985
-9	13766
-8	8069
-7	4324
-6	2033
-5	770
-4	181
-3	-16
-2	-31
-1	-2
0	5
1	-4
2	49
3	314
4	1013
5	2440
6	4961
7	9014
8	15109
9	23828
10	35825

