

Name: _____

MATH 308

Fall 2021

HW 3: Due 09/24

“The problem with people who only want what they can’t have is that once they have what they want, they don’t want it anymore.”

–J.D., Scrubs

Problem 1. (10pt) Watch the video [New Math \(Tom Lehrer\)](#). Who was Tom Lehrer? What other songs is he famous for? How does the video relate to the material?

Problem 2. (10pt) Convert the following integers to binary:

(a) 33

(b) 156

Problem 3. (10pt) Convert the following binary integers to base-10 integers:

(a) 101101_2

(b) 10110100_2

Problem 4. (10pt) Convert the following integers to hexadecimal:

(a) 59

(b) 200

Problem 5. (10pt) Convert the following hexadecimal numbers to base-10:

(a) F1

(b) 5BF

Problem 6. (10pt) Perform the following operations in binary:

(a) $101_2 + 11_2$

(b) $11011_2 + 11101_2$