

Home Work # 2
Due: February 26, 2014

Work in teams of two. Each team will submit one HW set.

Section 1.5

Problems: 10, 16, 20, 28 (a), (c), (d), (g), (i) and (j), 34

Section 1.6

Problems: 6, 10, 14, 24, 34

Section 1.7

Problems: 10, 12, 22

Show by a direct proof that \$ K (where K is a positive integer $K > 1$) can be made up using \$3 and \$2 bills. (Hint: Consider odd K and even K separately.)

Section 1.8

Problems: 18, 26, 30

Find two positive integers M and N such that $M^2 - N^2 = 5213 \times 4029$. (Hint: Use the fact that $M^2 - N^2 = (M + N) * (M - N)$.)

Give an example of a ten digit number X that can't be written as $X = M^2 - N^2$. (Hint: The number 1000000007 is prime. Argue that 2×1000000007 can't be a difference of two perfect squares.)

Section 2.1

Problems: 10, 24, 42, 44

Section 2.2

Problems: 18, 30 (justify your answers), 50, 52

Section 2.3

Problems: 10, 14, 38, 42