Name and surname:

U number:

Bridge - MGF 3301 - Section 001

Quiz 5

03/04/2020

Instructions: The total number of points for this quiz is 11 (there is 1 bonus point). Calculators are not allowed (and actually not needed).

Exercise 1

(6 points)

Describe the following sets with a *set-builder notation*, i.e. as truth set of an open sentence.

(a) $A = \{2, 3, 5, 7, 11, 13, \ldots\}$

(b) $B = \{1, 3, 5, 7, \ldots, 49\}$

(c) $C = \left\{\frac{1}{5}, \frac{1}{10}\frac{1}{15}, \frac{1}{20}, \ldots\right\}$

(d) $D = \left\{\frac{1}{5}, \frac{2}{10}\frac{3}{15}, \frac{4}{20}, \ldots\right\}$

Exercise 2
(5 points)

Let $a \in \mathbb{Z}$. Recall the following notation:

$$a\mathbb{Z} := \{n \in \mathbb{Z} \mid n = ak, k \in \mathbb{Z}\}.$$

(a) Prove that $6\mathbb{Z} \subseteq 3\mathbb{Z}$.

(b) Prove that $6\mathbb{Z} \neq 3\mathbb{Z}$.