

MEMORIAL UNIVERSITY OF NEWFOUNDLAND
DEPARTMENT OF MATHEMATICS AND STATISTICS

SECTION 1.1

Math 1090 Worksheet

FALL 2009

For practise only. Not to be submitted.

1. From the set of real numbers

$$\left\{0, -5, \frac{8}{3}, 7.45, \frac{\pi}{2}, -\frac{1}{4}, -102, \sqrt{3}, \sqrt{4}\right\}$$

indicate which elements are

- (a) natural numbers
 - (b) integers
 - (c) rational numbers
 - (d) irrational numbers
2. Consider the sets

$$A = \{x \mid x \leq 2\},$$

$$B = \{x \mid x < 2\},$$

and

$$C = \{x \in \mathbb{Z} \mid x \leq 2\}.$$

Explain the difference between

- (a) sets A and B
 - (b) sets A and C
3. Write each of the following sets as an interval, and draw it on the real line.
- (a) $\{x \mid -2 \leq x \leq 2\}$
 - (b) $\{x \mid 1 < x \leq 3\}$
 - (c) $\{x \mid x \geq -1\}$
 - (d) $\{x \mid x \leq 0 \text{ or } \frac{2}{3} < x < 3\}$