

MATHEMATICS
Monday September 28 2015
Preliminary Test

Ex.1 Given the sets

$$A = [0, 1]$$

$$B = \left(2, \frac{5}{2}\right)$$

$$C = [\sqrt{11}, +\infty)$$

determine the sets A^c , $(B \cap C) \cup A$, $A^c \cap C$.

Ex.2 Given the set

$$(-\infty, 2] \cup \{3\} \cup (4, \infty)$$

find its interior and exterior points, accumulation points and isolated points, and declare if T is open, closed or nor open nor closed.

Ex.3 Determine if the following function is injective and/or surjective on the specified domain:

$$f : [0; 1] \longrightarrow \mathbb{R} \qquad f(x) = (x - 1)^2$$