

## Math-1003b Homework #7

### Reading

- Section 9.1 and 9.2

### Problems

1). Let  $A = \{x \in \mathbb{R} \mid -1 \leq x < 3\}$  and  $B = \{x \in \mathbb{R} \mid x < \frac{1}{2}\}$ .

- a). Graph  $A$  and express in interval notation.
- b). Graph  $B$  and express in interval notation.
- c). Graph  $A \cup B$  and express in interval notation.
- d). Graph  $A \cap B$  and express in interval notation.

2). Let  $f(x) = 3 - 2x$

- a). Solve for  $x$ :

$$5 < f(x) \leq 9$$

and express the answer in interval notation.

- b). Solve for  $x$ :

$$5 < f(x) \text{ or } f(x) > 9$$

and express the answer in interval notation.