

## LA Worksheet #1

1. `int x = rand(); int y = rand();`  
`unsigned ux = (unsigned) x;`

a) `ux >> 3 == ux / 8`

**True**

b) given `x > 0`, `((x < 5) >> 6) > 0`

**False**

c) `~x + x >= ux`

**True, `~x + x` is `Umax`**

d) given `x & 15 == 11`,

`(~((x >> 3) & (x >> 2) << 31)) >= 0`

`x & 15` → least sig. bits are 1011

`<< 31` → least sig. bit to most

**False**

e) given `(x < 0) && (x + x < 0)`

`x + ux < 0` → interpreted as unsigned.

**False**

f) given `(x > 0) && (y < 0) && (x + y > 0)`

`(x | y) >> 30 == -1` → 11...1

**False** → `== -2` is possible

2. a) **0x00**

b) **0xFF**