

# Worksheet 10 Review

March 28, 2020

## Question 1

a.

$$(165)_8 = 5 \cdot 8^0 + 6 \cdot 8^1 + 1 \cdot 8^2 \quad (1)$$

$$= 5 + 48 + 64 \quad (2)$$

$$= 53 + 64 \quad (3)$$

$$= 117 \quad (4)$$

b.

$$(B4)_{16} = 4 \cdot 16^0 + 11 \cdot 16^1 \quad (1)$$

$$= 4 + (11 \cdot 16) \quad (2)$$

$$= 4 + 176 \quad (3)$$

$$= 180 \quad (4)$$

## Question 2

a.

$$357 \div 2 = 178, \text{ remainder } \mathbf{1},$$

$$178 \div 2 = 89, \text{ remainder } \mathbf{0},$$

$$89 \div 2 = 44, \text{ remainder } \mathbf{1},$$

$$44 \div 2 = 22, \text{ remainder } \mathbf{0},$$

$$22 \div 2 = 11, \text{ remainder } \mathbf{0},$$

$$11 \div 2 = 5, \text{ remainder } \mathbf{1},$$

$$5 \div 2 = 2, \text{ remainder } \mathbf{1},$$

$$2 \div 2 = 1, \text{ remainder } \mathbf{0},$$

$$1 \div 2 = 0, \text{ remainder } \mathbf{1}$$

Combining it together, it is  $(101100101)_2$

## Question 3