

**//Name:Shahroz Imtiaz****//Email ID:si6rf****//File Name:radixWorksheet.pdf****//Date:9/27/2018****UVa Email ID (no aliases please):** \_\_\_\_\_ **si6rf** \_\_\_\_\_**Name** \_\_\_ **Shahroz\_Imtiaz** \_\_\_\_\_ **Lab section** \_\_\_ **107** \_\_\_\_\_**Lab 4 - Radix Conversion Worksheet**

Convert:

1.  $0x4F45$  into octal
  - a)  $\Rightarrow 0100\ 1111\ 0100\ 0101$
  - b)  $\Rightarrow 0\ 100\ 111\ 101\ 000\ 101$
  - c)  $\Rightarrow 4\ 7\ 5\ 0\ 5 \Rightarrow 47505$
  
2.  $269_{10}$  into radix 7
  - a)  $\Rightarrow 269/7^2 = 5\ r\ 24$
  - b)  $\Rightarrow 24/7^1 = 3\ r\ 3$
  - c)  $\Rightarrow 3/7^0 = 3\ r\ 0$ 
    - i.  $\Rightarrow 533$
  
3.  $110011011110_2$  into decimal
  - a)  $\Rightarrow 2^1 + 2^2 + 2^3 + 2^4 + 2^6 + 2^7 + 2^{10} + 2^{11} \Rightarrow 3294$
  
4.  $2BD_{19}$  into decimal
  - a)  $\Rightarrow (2*19^2) + (11*19^1) + (13*19^0)$
  - b)  $\Rightarrow 722 + 209 + 13 \Rightarrow 944$
  
5. Given the following positive binary integer in two's complement:  
0101001101011101
  - a) Convert the number to hexadecimal:
    - i.  $0101\ 0011\ 0101\ 1101 \Rightarrow 5\ 3\ 5\ D \Rightarrow 535D$
  
  - b) Negate the number.
    - i.  $0101\ 0011\ 0101\ 1101 \Rightarrow 1010\ 1100\ 1010\ 0010 + 1 \Rightarrow$   
      1.  $1010\ 1100\ 1010\ 0011$