

Assignment #1 - Number Bases

Name _____

In all of the exercises below, show your work for full credit.

1. Convert the following binary numbers to equivalent decimal numbers.

- (a) $(1001)_2$

- (b) $(10011)_2$

- (c) $(01101101)_2$

- (d) $(10001101)_2$

- (e) $(11111111)_2$

- (f) $(00111011)_2$

- (g) $(101110010001)_2$

- (h) $(11011.101)_2$

2. Convert the following decimal numbers to equivalent binary numbers.

- (a) $(45)_{10}$

- (b) $(60)_{10}$

- (c) $(255)_{10}$

- (d) $(256)_{10}$

- (e) $(2356)_{10}$

- (f) $(4095)_{10}$

3. Convert the following octal numbers to equivalent decimal numbers.

- (a) $(45)_8$

- (b) $(2473)_8$

4. Convert the following decimal numbers to equivalent octal numbers.

- (a) $(19)_{10}$

- (b) $(332)_{10}$

- (c) $(513)_{10}$

5. Convert the following hexadecimal numbers to equivalent decimal numbers.

- (a) $(B6)_{16}$

- (b) $(1FF)_{16}$

- (c) $(2D3D)_{16}$

6. Convert the following decimal numbers to equivalent hexadecimal numbers.

- (a) $(19)_{10}$

- (b) $(332)_{10}$

- (c) $(513)_{10}$

7. Convert the following binary numbers to equivalent octal numbers.

- (a) $(10110)_2$

- (b) $(101101110)_2$

- (c) $(10110111)_2$

8. Convert the following binary numbers to equivalent hexadecimal numbers.

- (a) $(10110)_2$

- (b) $(101101110)_2$

- (c) $(10110111)_2$

9. Miscellaneous - Perform the following base conversions

- (a) $(142)_5 = (?)_{10}$

- (b) $(29)_{10} = (?)_7$

- (c) $(10110111)_2 = (?)_4$