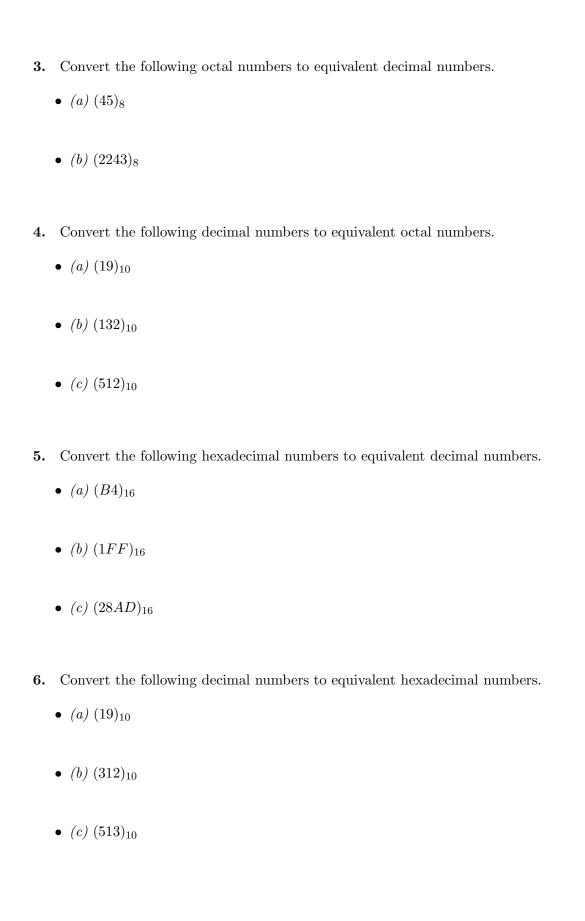
Worksheet - Number Bases

1.	Convert the following binary numbers to equivalent decimal numbers. • (a) $(1101)_2$
	• (b) (11101) ₂
	• (c) (0101 1101) ₂
	• (d) (1101 1101) ₂
	• (e) (1111 1111) ₂
	• (f) (0101 1001) ₂
	• (g) (1101 1101 0101) ₂
	• (h) (11100.101) ₂
2.	Convert the following decimal numbers to equivalent binary numbers. • (a) $(57)_{10}$
	• (b) (45) ₁₀
	• (c) $(255)_{10}$
	• (d) (256) ₁₀
	• (e) $(2416)_{10}$
	• (f) (4195) ₁₀



7. Convert the following binary number(a) (1 1101)₂	ers to equivalent octal numbers.
• (b) (1 0110 1101) ₂	
• (c) (1011 0101) ₂	
 8. Convert the following binary number • (a) (10 1010)₂ 	ers to equivalent hexadecimal numbers.
• (b) (1 1110 0110) ₂	
• (c) (1101 0101) ₂	
9. Miscellaneous - Perform the followin • (a) $(141)_5 = (?)_{10}$	ng base conversions
• $(b) (36)_{10} = (?)_7$	
• (c) (110 0101) ₂ = (?) ₄ (Is there a s	shortcut way to do this?
10. Perform the following unsigned bin into decimal. (Note: the last two are sub	nary arithmetic. Verify your answer by converting each problem otraction!)
a. 0111 0101 + 0011 0011	b. 0010 0110 + 0101 1011
c. 1001 0011 + 0011 1011	d. 0101 1100 + 0001 1111
e. 1001 1011 - 0011 1011	f. 0101 1001 - 0001 1111

a. 424 + 163 b. 5112 + 1346

12. Perform the following **hexadecimal** arithmetic. Verify your results by converting each problem into decimal. (Note: the last two are subtraction!)

a. A4 + 27 b. 7F3 + 41D

c. 806 - 4B d. 56C - 1FF