

Name : _____ Period: _____ Date : _____

Binary (BASE 2) to Decimal (BASE 10) conversions (ignore spaces)
 $1 \ 1 \ 0 \ 0 \ 1 = (1 \times 16 + 1 \times 8 + 0 \times 4 + 0 \times 2 + 1 \times 1) = 25 \text{ in base } 10$
 $2^4 \ 2^3 \ 2^2 \ 2^1 \ 2^0$

1. Convert 1111 base 2 to base 10 _____
2. Convert binary 1001 to base 10 _____
3. Convert 1010 1000 base 2 to decimal _____
4. Convert 00010001_2 to base 10 _____
5. Convert binary 01011001 to decimal _____

Hexadecimal (BASE 16) to Decimal (BASE 10) conversions

Hex:	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Dec:	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

$0 \ 0 \ 0 \ 1 \ 2 \ B = (1 \times 256 + 2 \times 16 + 11 \times 1) = 256 + 32 + 11 = 299$
 $16^5 \ 16^4 \ 16^3 \ 16^2 \ 16^1 \ 16^0$

6. Convert 2C base 16 to base 10 _____
7. Convert 014_{16} to decimal _____
8. Convert hex 000E to base 10 _____
9. Convert hexadecimal 10A to decimal _____
10. Convert 0A3 base 16 to base 10 _____

Binary (BASE 2) to Hexadecimal (BASE 16) conversions
 $D \ 9$
 $1 \ 1 \ 0 \ 1 \ 1 \ 0 \ 0 \ 1 = D9 \text{ in base } 16$

11. Convert 01001111 base 2 to base 16 _____
12. Convert 10011011_2 to hexadecimal _____
13. Convert binary 0011 1101 to hex _____
14. Convert AC base 16 to base 2 _____
15. Convert $3E_{16}$ to base 2 _____

Decimal (BASE 10) to Binary (BASE 2) conversions

16. Convert 21 base 10 to base 2 _____
17. Convert decimal 70 to binary _____
18. Convert 17_{10} to binary _____
19. Convert 15 base 10 to base 2 _____
20. Convert 30 to binary _____

Decimal (BASE 10) to Hexadecimal (BASE 16) conversions

21. Convert 21 base 10 to base 16 _____
22. Convert decimal 62 to hexadecimal _____
23. Convert 13_{10} to hex _____
24. Convert 40 base 10 to base 16 _____
25. Convert 28 to hexadecimal _____

Additional practice

26. Convert 44 base 10 to base 16 _____
27. Convert 10111111_2 to hexadecimal _____
28. Convert hex 0019 to base 10 _____
29. Convert 26 base 10 to base 2 _____
30. Convert hexadecimal 12F to decimal _____