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on Binary and Hex Representation

Instructions: For each question, choose the single best answer. Make your choice by clicking on its button. You can change your answers at any time. When the quiz is graded, the correct answers will appear in the box after each question.

1. Change the representation of 1010_2 from base two to base ten.

- ☐ A. 8_{10}
- ☐ B. 9_{10}
- ☒ C. 10_{10}
- ☐ D. 11_{10}
- ☐ E. 12_{10}
- ☐ F. 14_{10}

2. What number goes in the empty cell of the table:

Power of 2	6	5	4	3	2	1	0
Decimal	????	32	16	8	4	2	1

- ☐ A. 34
- ☐ B. 48
- ☐ C. 60
- ☒ D. 64
- ☐ E. 68
- ☐ F. 72

3. Change the representation of 100010_2 from base two to base ten.

- ☐ A. 14
- ☐ B. 28
- ☐ C. 32
- ☒ D. 34
- ☐ E. 46
- ☐ F. 52

D

4. Change the representation of $0000\ 1111_2$ from base two to base ten. (Hint: you should get this instantly.)

- ☐ A. 6
- ☐ B. 7
- ☐ C. 12
- ☒ D. 15
- ☐ E. 16
- ☐ F. 31

D

5. Change the representation of $0011\ 1100_2$ from base two to base ten. (Hint: use your previous answer.)

- ☐ A. 14
- ☐ B. 28
- ☐ C. 32
- ☒ D. 60
- ☐ E. 64
- ☐ F. 72

D

6. Say that you are using **unsigned binary** to represent integers with 6 bits. What range of integers can be represented?

- ☐ A. 0 to 64
- ☐ B. 1 to 64
- ☒ C. 0 to 63
- ☐ D. 1 to 128

- ☐ E. 0 to 255
- ☐ F. 1 to 247

C

7. Change the representation of $A5_{16}$ from base sixteen to base ten.

- ☐ A. 46
- ☒ B. 165
- ☐ C. 232
- ☐ D. 245
- ☐ E. 305
- ☐ F. 1025

B

8. Here is a number represented in base 16 notation: 5A3F. Write the number in unsigned binary notation.

- ☒ A. 0101 1010 0011 1111
- ☐ B. 1111 0011 1010 1001
- ☐ C. 1100 1000 0111 1111
- ☐ D. 1010 1001 0011 1000
- ☐ E. 1011 0001 0000 1110
- ☐ F. 1110 1011 1011 1001

A

9. Convert the representation of the following from base 16 to base 8: 0x37A.

- ☐ A. 011 111 1010
- ☐ B. 0772
- ☐ C. 001 101 111 010
- ☒ D. 1572
- ☐ E. 8214
- ☐ F. 7426

D

10. Represent 27_{10} in base 2.

- ☐ A. 101101
- ☐ B. 10110

**Algorithm: Convert a number
from base 10 to base B repⁿ**

- ☐ C. 1011
- ☒ D. 11011
- ☐ E. 101101
- ☐ F. 100110

```
place = 0;
number = number to be converted

while (number > 0 )
{
    digit[place] = number mod B ;
    number      = number div B ;
    place       = place + 1 ;
}
```

11. Convert 304_5 from base 5 to base 10.

- ☐ A. 15
- ☐ B. 23
- ☐ C. 27
- ☐ D. 32
- ☒ E. 79
- ☐ F. 83

12. Convert 304_5 from base 5 to base 2 (use your previous answer).

- ☐ A. 1100 1001
- ☐ B. 0110 0100
- ☐ C. 0010 1000
- ☐ D. 1000 1100
- ☐ E. 1010 1011
- ☒ F. 0100 1111

13. Write the unsigned binary number 0010 1110 in hexadecimal representation

- ☐ A. 0232
- ☐ B. 2F
- ☐ C. 3E
- ☐ D. 07
- ☒ E. 2E
- ☐ F. FF

14. Write the unsigned binary number 000 101 110 in octal representation.

- ☐ A. 022
- ☐ B. 023
- ☐ C. 013
- ☐ D. 122
- ☒ E. 056
- ☐ F. 023

15. Write the unsigned binary number 000 101 110 in decimal representation.

- ☐ A. 26
- ☒ B. 46
- ☐ C. 52
- ☐ D. 64
- ☐ E. 122
- ☐ F. 131

grade quiz

The number you got right:

Percent Correct:

Letter Grade:



If you have returned here from another page, or have re-loaded this page, you will need to click again on each of your choices for the grading program to work correctly. You may want to press the SHIFT KEY while clicking to clear the old answers.