

Chapter 1

Worksheet on Number Systems

Section A: Fill in the Blanks

1, 8, 11, 16, 2

1. The binary number system uses base _____.
2. The decimal equivalent of $(1011)_2$ is _____.
3. The octal number system uses base _____.
4. The hexadecimal number system uses base _____.
5. The least significant bit (LSB) in the binary number $(1101)_2$ is _____.

Section B: Match the Following

Match the number systems with their bases:

Number System	Base
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- | | |
|----------------|-------|
| 1. Binary | A. 10 |
| 2. Decimal | B. 8 |
| 3. Octal | C. 2 |
| 4. Hexadecimal | D. 16 |

Section D: True or False

1. The binary number system consists of digits 0 and 1. (True / False)
2. The octal number system uses digits from 0 to 7. (True / False)

3. The hexadecimal number system uses digits from 0 to 9 and letters A to F.
(True / False)
4. The decimal equivalent of $(101)_2(101)_2$ is 5. (True / False)
5. The most significant bit (MSB) in the binary number $(1101)_2(1101)_2$ is 1.
(True / False)

Multiple Choice Questions

1. What is the base of the binary number system?
- a) 2
 - b) 8
 - c) 10
 - d) 16
2. Which of the following is the decimal equivalent of $(1010)_2(1010)_2$?
- a) 8
 - b) 10
 - c) 12
 - d) 14
3. What is the base of the hexadecimal number system?
- a) 2
 - b) 8
 - c) 10
 - d) 16

4. Which of the following is the binary equivalent of $(13)_{10}$?

a) $(1101)_2$

b) $(1011)_2$

c) $(1110)_2$

d) $(1001)_2$

5. What is the octal equivalent of $(25)_{10}$?

a) $(31)_8$

b) $(25)_8$

c) $(37)_8$

d) $(41)_8$

True or False

1. The binary number system is also known as the base-2 number system.

(True/False)

2. The decimal number system uses digits from 0 to 9. (True / False)

3. The hexadecimal number system uses digits from 0 to 9 and letters A to G.

(True / False)

4. The octal number system uses digits from 0 to 8. (True / False)

5. The decimal equivalent of $(1111)_2$ is 15. (True / False)