Import Settings:

Base Settings: Brownstone Default

Information Field: Complexity

Information Field: Ahead

Information Field: Subject

Information Field: Title

Information Field: Feedback

Information Field: Taxonomy

Information Field: Objective

Highest Answer Letter: E

Multiple Keywords in Same Paragraph: No

NAS ISBN13: 9781284155617, add to Ahead, Title tags

**Chapter: Chapter 02 - Quiz**

**Multiple Choice**

1. How many digits are there in the binary number system?

A) 1

B) 2

C) 7

D) 8

E) 9

Ans: B

Complexity: Easy

Ahead: Positional Notation

Subject: Chapter 2

Title: Binary Values and Number Systems

2. How many digits are there in the hexadecimal number system?

A) 0

B) 9

C) 10

D) 15

E) 16

Ans: E

Complexity: Moderate

Ahead: Positional Notation

Subject: Chapter 2

Title: Binary Values and Number Systems

3. What is the decimal value of the largest digit in the hexadecimal number system?

A) 0

B) 9

C) 10

D) 15

E) 16

Ans: D

Complexity: Difficult

Ahead: Positional Notation

Subject: Chapter 2

Title: Binary Values and Number Systems

**True/False**

1. True or False? There is one set of underlying principles governing all numbers systems.

Ans: True

Complexity: Easy

Ahead: Positional Notation

Subject: Chapter 2

Title: Binary Values and Number Systems

2. True or False? The base of a number system determines the number of digit positions that can be used for any number in the system.

Ans: False

Complexity: Difficult

Ahead: Positional Notation

Subject: Chapter 2

Title: Binary Values and Number Systems

3. True or False? The base of the hexadecimal number system is 15.

Ans: False

Complexity: Easy

Ahead: Positional Notation

Subject: Chapter 2

Title: Binary Values and Number Systems

4. True or False? A value of a number in any base can be expressed as a polynomial expression.

Ans: True

Complexity: Moderate

Ahead; Positional Notation

Subject: Chapter 2

Title: Binary Values and Number Systems

5. True or False? Grace Murray Hopper is credited with being the first programmer.

Ans: False

Complexity: Moderate

Ahead: Positional Notation

Subject: Chapter 2

Title: Binary Values and Number Systems

6. True or False? Three octal digits can be stored in one byte.

Ans: False

Complexity: Difficult

Ahead: Positional Notation

Subject: Chapter 2

Title: Binary Values and Number Systems

**Short Answer**

1. A(n) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is a unit of an abstract mathematical system subject to the laws of arithmetic.

Ans: number

Complexity: Easy

Ahead: Numbers and Computing

Subject: Chapter 2

Title: Binary Values and Number Systems

2. The value of a number in any base can be expressed as a(n) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in which each term is made up of a digit multiplied by the base raised to a power.

Ans: polynomial

Complexity: Easy

Ahead: Positional Notation

Subject: Chapter 2

Title: Binary Values and Number Systems

3. The highest digit in base 16 is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Ans: F

Complexity: Easy

Ahead: Positional Notation

Subject: Chapter 2

Title: Binary Values and Number Systems

4. In base 16, the digit D is used to represent the decimal value \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Ans: 13

Complexity: Difficult

Ahead: Positional Notation

Subject: Chapter 2

Title: Binary Values and Number Systems

5. A group of eight bits is called a(n) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Ans: byte

Complexity: Easy

Ahead; Positional Notation

Subject: Chapter 2

Title: Binary Values and Number Systems

**Essay**

1. What is a rational number?

Ans: An integer or the quotient of two integers (excluding division by zero).

Complexity: Easy

Ahead: Numbers and Computing

Subject: Chapter 2

Title: Binary Values and Number Systems

2. What is a natural number?

Ans: The number 0 or any number that can be obtained by repeatedly adding 1 to it.

Complexity: Easy

Ahead: Numbers and Computing

Subject: Chapter 2

Title: Binary Values and Number Systems

3. What is a number?

Ans: A unit in an abstract mathematical system subject to the laws of mathematics.

Complexity: Easy

Ahead: Numbers and Computing

Subject: Chapter 2

Title: Binary Values and Number Systems

4. What is the base of a number system?

Ans: The foundational value that dictates the number of digits and the value of digit positions.

Complexity: Easy

Ahead: Positional Notation

Subject: Chapter 2

Title: Binary Values and Number Systems

5. What is the value of the largest digit in the base X number system (for any positive integer X)?

Ans: X – 1

Complexity: Moderate

Ahead: Positional Notation

Subject: Chapter 2

Title: Binary Values and Number Systems

6. What is the fundamental concept at the intersection of all branches of modern mathematics?

Ans: The concept of zero.

Complexity: Easy

Ahead: Positional Notation

Subject: Chapter 2

Title: Binary Values and Number Systems