**Chapter 3 Number Systems: Individual Exercises**

***Convert this hexadecimal number 5D316 to Binary.***

**Answer:**

5 = (0101)

D = (1101)

3 = (0011)

Therefore,

5D3 base 16 = 010111010011

***Show the decimal number 147 in Binary.***

**Answer:**

147/2 = 73 remainder 1

73/2 = 36 remainder 1

36/2 = 13 remainder 0

18/2 = 9 remainder is 0  
9/2 = 4 remainder is 1  
4/2 = 2 remainder is 0  
2/2 = 1 remainder is 0  
1/2 = 0 remainder is 1

Decimal Number 147 = 11001001

***How many binary digits does it take to represent the decimal number 2013?***

**Answer:** 11

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***Convert this octal number 12348 to Decimal.***

**Answer:**

For decimal equivalent we will multiply each number by 8 to the power of its unit’s place

4 \* 8^0 =4

3 \* 8^1 =24  
2 \* 8^2 = 128

1 \* 8^3 = 512

Decimal is = 4+24+128+512

= 668

***Convert this binary number 1010110102 to Decimal.***

**Answer:**

1\* 2^ 8 + 0 \* 2^7 + 1\* 2^6 + 0\*2^5 + 1 \* 2^4 + 1 \* 2^3 +0 \* 2^2+1 \* 2^1+0 \* 2^0

= 346