Answer the following questions:

1. Figure out what decimal value is represented by the following binary number 0011 1010 0011

**Answer**

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| --- |
| **The decimal that is represented is 931** |

2. Represent the decimal value 517 as a binary number.

**Answer**

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| --- |
| **1000000101** |

3. The binary number system is base 2 and has 2 digits. The decimal number system is base 10 and has 10 digits. The octal system is base 8. How many digits does it have? What are they, starting at 0?

**Answer**

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| **It has 8 digits which are 0,1,2,3,4,5,6,7,8** |

4. Suppose the number 523 is a base-8 octal number. What would its value be in decimal? In binary?

1 8 64 512

**Answer**

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| **It would be 339 in decimal form** |

5. Challenging: Convert the base-5 number 243 into decimal.

1 5 25 100

**Answer**

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| **The decimal number would be 73** |