基礎コンピュータ工学　宿題 No.2(1/2)　番号：　　氏名：　　　解　答

1. １０進数の計算と同じ２進数の計算をしなさい．

|  |  |  |  |
| --- | --- | --- | --- |
| （例） | １００１０ |  | ０１１０　０１００２ |
|  | ＋　５０１０ |  | ＋　００１１　００１０２ |
|  | １５０１０ |  | １００１　０１１０２ |

|  |  |  |  |
| --- | --- | --- | --- |
| （１） | ９８１０ |  | ０１１０　００１０２ |
|  | ＋　３２１０ |  | ＋　００１０　００００２ |
|  | １３０１０ |  | １０００　００１０２ |

|  |  |  |  |
| --- | --- | --- | --- |
| （２） | ６８１０ |  | ０１００　０１００２ |
|  | ＋１２４１０ |  | ＋　０１１１　１１００２ |
|  | １９２１０ |  | １１００　００００２ |

|  |  |  |  |
| --- | --- | --- | --- |
| （３） | １２７１０ |  | ０１１１　１１１１２ |
|  | ＋　８５１０ |  | ＋　０１０１　０１０１２ |
|  | ２１２１０ |  | １１０１　０１００２ |

|  |  |  |  |
| --- | --- | --- | --- |
| （４） | １００１０ |  | ０１１０　０１００２ |
|  | −　５０１０ |  | −　００１１　００１０２ |
|  | ５０１０ |  | ００１１　００１０２ |

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| --- | --- | --- | --- |
| （５） | １２８１０ |  | １０００　００００２ |
|  | −　　１１０ |  | −　００００　０００１２ |
|  | １２７１０ |  | ０１１１　１１１１２ |

|  |  |  |  |
| --- | --- | --- | --- |
| （６） | １７０１０ |  | １０１０　１０１０２ |
|  | −　８５１０ |  | −　０１０１　０１０１２ |
|  | ８５１０ |  | ０１０１　０１０１２ |

基礎コンピュータ工学　宿題 No.2(2/2)　番号：　　氏名：　　　解　答

1. １０進数を２の補数表現を用いた８ビットの２進数に変換しなさい．  
   （ただし，８ビットでは表現できない場合は「変換不可」と書くこと）

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| --- | --- | --- | --- |
| （１） | １００１０ | → | ０１１０　０１００２ |

|  |  |  |  |
| --- | --- | --- | --- |
| （２） | −１００１０ | → | １００１　１１００２ |

|  |  |  |  |
| --- | --- | --- | --- |
| （３） | ５０１０ | → | ００１１　００１０２ |

|  |  |  |  |
| --- | --- | --- | --- |
| （４） | −５０１０ | → | １１００　１１１０２ |

|  |  |  |  |
| --- | --- | --- | --- |
| （５） | １２７１０ | → | ０１１１　１１１１２ |

|  |  |  |  |
| --- | --- | --- | --- |
| （６） | −１２７１０ | → | １０００　０００１２ |

|  |  |  |  |
| --- | --- | --- | --- |
| （７） | １２８１０ | → | 変換不可　　　２ |

|  |  |  |  |
| --- | --- | --- | --- |
| （６） | −１２８１０ | → | １０００　００００２ |

1. ８ビットの２進数で表現できる数値の範囲を１０進数で答えなさい．

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| --- | --- | --- |
| ０ | 〜 | ２５５ |

1. ２の補数表現を用いた８ビットの２進数で表現できる数値の範囲を１０進数で答えなさい．

|  |  |  |
| --- | --- | --- |
| −１２８ | 〜 | １２７ |