**Calculating Denary to Binary Numbers: Workbook**

Calculating binary numbers

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| --- | --- | --- | --- | --- | --- | --- | --- |
| 128 | 64 | 32 | 16 | 8 | 4 | 2 | 1 |
| 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |

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| --- | --- |
| Example | Denary = 3 |
| Answer in binary | 00000011 |
| Calculation for answer | (1 \* 1) + (2 \* 1) = 3 |

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| --- | --- | --- | --- | --- | --- | --- | --- |
| 128 | 64 | 32 | 16 | 8 | 4 | 2 | 1 |
| 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |

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| Task 1 | Denary = 6 |
| Answer in binary | 00000110 |
| Calculation for answer | (2\*1) + (4\*1) = 6 |

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| 128 | 64 | 32 | 16 | 8 | 4 | 2 | 1 |
| 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 |

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| Task 2 | | | Denary = 15 | | | | | |
| Answer in binary | | | 00001111 | | | | | |
| Calculation for answer | | |  | | | | | |
| 128 | 64 | 32 | | 16 | 8 | 4 | 2 | 1 | |
| 0 | 0 | 0 | | 1 | 0 | 1 | 0 | 1 | |

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| Task 3 | Denary = 21 |
| Answer in binary | 00010101 |
| Calculation for answer |  |

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| 128 | 64 | 32 | 16 | 8 | 4 | 2 | 1 |
| 0 | 0 | 1 | 0 | 0 | 1 | 1 | 1 |

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| Task 4 | Denary = 39 |
| Answer in binary | 00100111 |
| Calculation for answer |  |

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| 128 | 64 | 32 | 16 | 8 | 4 | 2 | 1 |
| 0 | 0 | 1 | 1 | 0 | 1 | 1 | 0 |

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| Task 5 | Denary = 54 |
| Answer in binary | 00110110 |
| Calculation for answer |  |

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| 128 | 64 | 32 | 16 | 8 | 4 | 2 | 1 |
| 0 | 1 | 0 | 0 | 1 | 1 | 1 | 0 |

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| Task 6 | Denary = 78 |
| Answer in binary | 01001110 |
| Calculation for answer |  |

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| 128 | 64 | 32 | 16 | 8 | 4 | 2 | 1 |
| 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 |

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| Task 7 | Denary = 99 |
| Answer in binary | 01100011 |
| Calculation for answer |  |

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| 128 | 64 | 32 | 16 | 8 | 4 | 2 | 1 |
| 0 | 1 | 1 | 0 | 1 | 0 | 1 | 0 |

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| Task 8 | Denary = 106 |
| Answer in binary | 01101010 |
| Calculation for answer |  |

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| 128 | 64 | 32 | 16 | 8 | 4 | 2 | 1 |
| 1 | 0 | 1 | 1 | 0 | 1 | 0 | 0 |

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| Task 9 | Denary = 180 |
| Answer in binary | 10110100 |
| Calculation for answer |  |

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| 128 | 64 | 32 | 16 | 8 | 4 | 2 | 1 |
| 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 |

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| Task 10 | Denary = 200 |
| Answer in binary | 11001000 |
| Calculation for answer |  |

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| 128 | 64 | 32 | 16 | 8 | 4 | 2 | 1 |
| 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 |

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| Task 11 | Denary = 250 |
| Answer in binary | 11111010 |
| Calculation for answer |  |