|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **A** | **Op** | **B** | **Result** | **Carry** | **Negative** | **oVerflow** | **Zero** | **Decimal Result** |
| 43 | + | 27 | 6A | No | No | No | No |  |
| 43 | - | 27 | 1C | Yes | No | No | No |  |
| 43 | + | D9 | (1)1C | Yes | No | No | No |  |
| 27 | + | D9 | 00 | Yes | No | No | Yes |  |
| 5E | + | 7F | DD | No | Yes | Yes | No | -35 |
| 5E | - | 7F | DF | No | Yes | No | No | -33 |
| 5E | + | 80 | DE | No | Yes | No | No | -34 |

1. 0x43 + 0x27 = 0x6A is the correct answer as both are positive values and generated a positive result, hence there was no overflow issue
2. 0x43 – 0x27 = 0x1C is the correct answer; using two’s complement it involved the addition of a positive value and a negative value, hence the carry that is generated can be discarded.
3. 0x43 + 0xD9 = 0x(1)1C however the display only accounts for 1C; a carry is generated however can be discarded due to there being no overflow (it’s the addition of a positive and negative value)
4. 0x27 + 0xD9 = 0x00 is the correct answer that results in a zero; there is a carry which is discarded due to no overflow occurring as the equation involves the addition of positive and negative values
5. 0x5E + 0x7F = 0xDD is an incorrect answer due to an overflow occurring (two positive values are added however the outcome is a negative value)
6. 0x5E – 0x7F = 0xDF is the correct answer as no overflow has occurred due to it involving the addition of a positive and a negative value; the outcome is a negative value
7. 0x5E + 0x80 = 0xDE is the correct answer as no overflow has occurred due to it involving the addition of a positive and a negative value; the outcome is a negative value