

3) Given the following

```
x = 0b00111101;           // assumed signed values
y = 0b10001110;
```

perform each operation and give the 8-bit binary result to the left of each problem. The first is already done as an example. Multiplication, division and modulo can be converted to decimal before performing, but all other operations should be done in binary. Show any work required.

```
00111110  x + 1
           x + y
           y - x
           x - y
           x * 2
           x / 8
           x % 8
           x / 10
           x % 10
           +x
           -x
           -y
           ~x
           ~y
           !x
           x << 2
           y << 2
           x >> 2
           y >> 2
           x & y
           x | y
           x ^ y
           1 && 0
           x && 0
           x && 1
           x && y
           x || 1
           x || y
           1 == 0
           x == 61
           x == y
           x != 12
           x != y
           x < y
           x <= y
           x > y
           x >= y
```