Date 22/12/21

$AB + (B+C) \cdot BC$

Binary Addition →

1) 10001 + 11101

Carry → 1 1

```
  10001
  11101
 ------
 101110
```

2) 11011 + 100101

Carry →

```
  1 1 1 1 1
  0 1 1 0 1 1
  1 0 0 1 0 1
+ ------------
  1 0 0 0 0 0 0
```

3) 00101 + 01100

Carry →

```
    1 1
  0 0 1 0 1
+ 0 1 1 0 0
 ----------
  1 0 0 0 1
```

Date ___/___/_____

4) 10110 + 10101

```
  1
 10110
 10101
------
101011
```

5) 101010 + 110100

```
  1010 10
+ 110100
--------
1011110
```

→ Binary subtraction →

1) 10101 − 01101

```
  0 2
  10101
  01101
= ―――――
  01000
```

2) 10011 − 101101

=

1's complement (101101) = 010010

2's complement = 010011

```
    1 1
    100 11
   −100 11
 +
   1100110
```

```
      1   1
    100  11
 + 0100  11
 ――――――――――
   1001 10
```

011 001

2's complement ⇒ (011001) + 1

Ans = − 011010

128 64 32 16 8 4 2 1

1 0 0 1 1 = 19

Date __/__/__ 1 0 1 1 0 1 = 45

1 0 0 1 1 0

Saathi

3) 10111 - 01000

$$\begin{array}{r} {}^{0}{}^{2} \\ 10111 \\ -\ 01000 \\ \hline 01111 \end{array}$$

4) 11010 - 01101

$$\begin{array}{r} {}^{0}{}^{2} \\ 11010 \\ -\ 01101 \\ \hline 01101 \end{array}$$

5) 011011 - 100101

011011 2's complement of 100101 ≡ (011010) + 1

100101 ≡ (011011)

$$\begin{array}{r} {}^{1}\ {}^{1} \\ 011011 \\ +\ 011011 \\ \hline 110110 \end{array}$$

∴ 2's complement of (110110) ≡ (001001) + 1

≡ (001010)

Ans = −001010

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