```
  0001   (+1)
+ 1001   (-1)
------
  1010   (-2)
```

signed-magnitude

```
   111
  0001   (+1)
+ 1111   (-1)
------
 10000   (0)
```

2's comp.

0001 (+1) → 001 (1)

1001 (-1) → 001 (1)

0000 (0)

4 = 1

1 ⇒ 0001

2's → 1110 + 1

1111

```
  0100
+ 1111
------
 10011   (+3)
```

AND OR XOR

Booth's.

MD 010 (2)

MR 011 (3)

PD	MR	MX
000	011	0

CR 011

if 10 → PD = PD − MD

2's comp of MD: 101 + 1 = 110

PD = 000 + 110 = 110

PD	MR	MX
110	011	0

CR 011

PD = PD + MD

PD	MR	MX
111	001	1

CR 010

PD	MR	MX
111	100	1

CR 001

PD	MR	MX
001	100	1

CR 001

MD
010

PD	MR
000	110

MX
0

CR
000

result

000110 → 6

2×3=6.

5 MD 0101
4 MR 0100

2's comp
MD

010
1
1011

MD
101
PD
000
MR
100
MX
0
CR
011

PD
000
MR
010
MX
0
MD
101
CR
010

PD=PD-MD

000
011
011

MD
101
PD
011
MD
001
MX
0
CR
001

MD
101

PD	MP
001	100

MX
1
CR
000

result
001100 (12)
0 (-4)

1100 → 2's c → 0001 / 0100

2 bits

00
01
10
11

3 bits

000
001
010
011 ×
100 ×
101
110
111

101
1

110

0101 5
0100 4

0101 —2's C→ 1011

MD
0101

PD	MR	MX
0000	0100	0

CR
0100

→

PD	MR	MX
0000	0010	0

CR
0011

PD	MR	MX
0000	0001	0

CR
0010

PD-MD →

PD	MR	MX
1011	0001	0

CR
0010

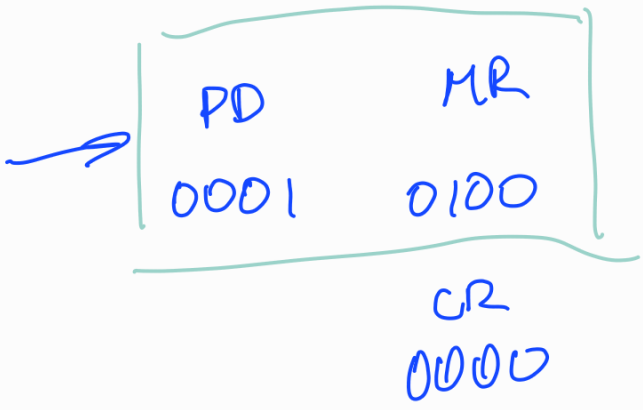
PD	MR	MX
1101	1000	1

CR
0001

PD+MD →

PD	MR	MX
0010	1000	1

CR
0001



MX

0

result

$\Rightarrow 00010100_2$

$\Rightarrow 20_{10}$

$4 \times 5 = 20$ ans.