

Use booth's algorithm to compute  $6 * -2$

$Q \leftarrow 0110$

$M \leftarrow 1110$

$M_{\text{inverse}} \leftarrow 0010$

$M_{\text{inverse}}$  is used to calculate  $A - M$

A	Q	$Q_{-1}$	C	Operation
0000	0110	0	4	ASHR(A, Q, $Q_{-1}$ ) c--
0000	0011	0	3	$A \leftarrow A - M$
0010	0011	0		ASHR(A, Q, $Q_{-1}$ ) c--
0001	0001	1	2	ASHR(A, Q, $Q_{-1}$ ) c--
0000	1000	1	1	$A \leftarrow A + M$
1110	1000	1		ASHR(A, Q, $Q_{-1}$ ) c--
1111	0100	0	0	Complete

Answer 1111 0100

Checking Work

Complement of answer = 00001100 = +12

Therefore, answer = -12, which is correct