

Assembly Code Used for  $1 \times -16 = -16$

```
addi $3, $3, 0x10
addi $2, $2, 0xFF
sra $0, $3, 7
sra $1, $2, 7
bne $0, $1, not_equal
clr $1
addi $1, $1, 0xFF
beq $1, $0, negative
loop_positive2:
clr $0
clr $1
loop_positive:
add $0, $0, $3
addi $1, $1, 1
bne $1, $2, loop_positive
clr $1
clr $2
addi $1, $1, 1
bne $1, $2, exit
negative:
clr $0
clr $1
loop_negative:
addi $1, $1, 1
add $0, $3, $3
addi $2, $2, 1
bne $2, $1, loop_negative
inv $0, $0
addi $0, $0, 1
beq $1, $2, exit
not_equal:
clr $1
addi $1, $1, 0xFF
beq $1, $0, loop_positive2
clr $1
clr $0
add $1, $3, $1
clr $3
add $3, $2, $3
clr $2
add $2, $1, $2
addi $0, $0, 1
clr $1
```

```
bne $1, $0, loop_positive2  
exit:
```

Assembly code used for  $30 \times 3$  is the same but with the first two lines replaced with the following:

```
addi $3, $3, 0x1E  
addi $2, $2, 0x03
```