

**Mixed Loops**

Do NOT write on this test. Record all answers on the bubble sheet. **Closed book. No notes.** Work strictly from memory. **No calculators. No time limit. Scratch paper okay.**

How many times does the body of the loop execute? (Mark 9 if 9 or more.)

- 1/1p. `int r=10; do body; while( --r != 9 );`
- 2/1p. `int h=-8; do body; while( h-- > -9 );`
- 3/1p. `int h=-8; do body; while( --h != -13 );`
- 4/1p. `int m=-2; while( ++m != -5 ) body;`
- 5/1p. `int t=3; while( t-- > 3 ) body;`
- 6/1p. `int w; for( w=4; w>4; --w ) body;`
- 7/1p. `int k=-8; while( ++k <= -2 ) body;`
- 8/1p. `int g=3; while( ++g <= 5 ) body;`
- 9/1p. `int g=4; while( ++g < 6 ) body;`
- 10/1p. `int k=5; while( k-- >= -1 ) body;`
- 11/1p. `int y=1; while( ++y != 10 ) body;`
- 12/1p. `int p=-5; while( p++ < -5 ) body;`
- 13/1p. `int x; for( x=-6; x!=2; ++x ) body;`
- 14/1p. `int d=9; while( d++ != 13 ) body;`
- 15/1p. `int f=-6; do body; while( f++ <= -1 );`
- 16/1p. `int z=0; while( z++ < 0 ) body;`
- 17/1p. `int t=8; do body; while( t++ < 15 );`
- 18/1p. `int n=-6; while( --n > -10 ) body;`
- 19/1p. `int c=-9; while( c++ != -2 ) body;`
- 20/1p. `int z=-1; while( z-- <= 3 ) body;`
- 21/1p. `int f=-4; do body; while( ++f != -2 );`
- 22/1p. `int d=-10; do body; while( d-- >= -13 );`
- 23/1p. `int y=0; while( --y != -5 ) body;`
- 24/1p. `int q=1; do body; while( ++q != 7 );`
- 25/1p. `int s=-9; while( ++s < -7 ) body;`
- 26/1p. `int n; for( n=2; n!=10; ++n ) body;`
- 27/1p. `int q; for( q=2; q!=-3; --q ) body;`
- 28/1p. `int n=-6; while( ++n > -13 ) body;`
- 29/1p. `int f=-6; while( ++f <= 0 ) body;`
- 30/1p. `int c=-3; while( --c > -10 ) body;`

Total points 30.

**Answer Key** (points per line)

1 (1).	1
2 (1).	2
3 (1).	5
4 (1).	9
5 (1).	0
6 (1).	0
7 (1).	6
8 (1).	2
9 (1).	1
10 (1).	7
11 (1).	8
12 (1).	0
13 (1).	8
14 (1).	4
15 (1).	7
16 (1).	0
17 (1).	8
18 (1).	3
19 (1).	7
20 (1).	9
21 (1).	2
22 (1).	5
23 (1).	4
24 (1).	6
25 (1).	1
26 (1).	8
27 (1).	5
28 (1).	9
29 (1).	6
30 (1).	6

Total points 30.