

TRAINING OFFICERS MANUAL

ONE-MILE RUN/WALK FOR BOYS

Percentile Scores Based on Age/Test Scores in Minutes and Seconds

PERCENTILE	AGE									
	8	9	10	11	12	13	14	15	16	17+
100	8:48	8:31	7:57	7:32	7:11	6:50	6:26	6:20	6:08	6:06
95	9:00	8:47	8:08	7:45	7:25	7:00	6:33	6:29	6:18	6:14
90	9:23	9:04	8:19	8:00	7:41	7:11	6:45	6:38	6:25	6:23
85	9:38	9:12	8:37	8:14	7:56	7:20	6:59	6:48	6:33	6:32
80	9:56	9:30	8:59	8:27	8:05	7:29	7:09	6:57	6:44	6:40
75	10:15	9:47	9:11	8:45	8:14	7:41	7:19	7:06	6:50	6:50
70	10:39	10:07	9:29	9:01	8:25	7:55	7:29	7:16	6:58	6:57
65	11:05	10:30	9:48	9:20	8:40	8:06	7:44	7:30	7:10	7:04
60	11:27	10:46	10:10	9:46	8:58	8:17	7:59	7:39	7:20	7:14
55	11:55	11:03	10:32	10:07	9:11	8:35	8:13	7:52	7:35	7:24
50	12:08	11:20	10:58	10:25	9:40	8:54	8:30	8:08	7:53	7:35
45	12:30	11:44	11:14	10:54	10:00	9:10	8:48	8:29	8:09	7:52
40	12:54	12:08	11:40	11:25	10:22	9:23	9:10	8:49	8:37	8:06
35	13:23	12:33	12:15	12:00	10:52	10:02	9:35	9:05	8:56	8:25
30	14:10	12:59	13:07	12:29	11:30	10:39	10:18	9:34	9:22	8:56
25	14:57	13:52	13:50	13:08	12:11	11:43	11:22	10:10	10:17	9:23
20	16:08	15:01	14:47	14:35	13:14	12:47	12:11	11:25	11:49	10:15
0	22:40	19:40	23:00	23:32	23:05	24:12	18:10	21:44	20:15	16:49

ONE-MILE RUN/WALK FOR GIRLS

Percentile Scores Based on Age/Test Scores in Minutes and Seconds

PERCENTILE	AGE									
	8	9	10	11	12	13	14	15	16	17+
100	10:02	9:30	9:19	9:02	8:23	8:13	7:59	8:08	8:23	8:15
95	10:20	10:03	9:38	9:22	8:52	8:29	8:20	8:24	8:39	8:34
90	10:55	10:22	10:08	9:44	9:15	8:49	8:36	8:40	8:50	8:52
85	11:20	10:45	10:19	10:04	9:36	9:09	8:50	8:55	9:11	9:15
80	11:38	10:58	10:42	10:24	10:05	9:30	9:09	9:09	9:25	9:33
75	11:53	11:13	10:52	10:42	10:26	9:50	9:27	9:23	9:48	9:51
70	12:10	11:32	11:00	11:00	10:44	10:07	9:51	9:37	10:09	10:08
65	12:30	11:52	11:22	11:17	11:05	10:23	10:06	9:58	10:31	10:22
60	12:46	12:13	11:40	11:36	11:23	10:57	10:25	10:18	10:58	10:48
55	13:07	12:24	11:58	12:00	11:47	11:20	10:51	10:40	11:15	11:05
50	13:31	12:48	12:08	12:21	12:01	11:40	11:10	11:00	11:44	11:20
45	13:56	13:19	12:30	12:42	12:24	12:00	11:36	11:20	12:08	12:00
40	14:21	13:44	13:00	13:09	12:46	12:29	11:52	11:48	12:42	12:11
35	14:53	14:07	13:29	13:44	13:35	13:01	12:18	12:19	13:23	12:40
30	15:19	14:57	14:00	14:16	14:12	14:10	12:56	13:33	14:16	13:03
25	15:45	15:40	14:30	14:44	14:39	14:49	14:10	14:13	16:03	14:01
20	16:55	16:58	15:43	16:07	16:00	16:10	15:44	15:17	18:00	15:14
0	20:40	24:00	24:00	21:02	24:54	20:45	20:04	24:07	21:00	28:50

TRAINING OFFICERS MANUAL

ENDURANCE RUN OPTIONS (MODIFIED)

Percentile Scores Based on Age/Test Scores in Minutes and Seconds

PERCENTILE	BOYS			GIRLS	
	AGE			AGE	
	8 *	9 *		8 *	9 *
95	3:30	3:30		3:58	3:53
90	3:41	3:42		4:06	4:04
85	3:49	3:46		4:18	4:13
80	3:55	3:54		4:27	4:20
75	4:02	3:59		4:34	4:28
70	4:09	4:04		4:42	4:37
65	4:16	4:09		4:48	4:43
60	4:22	4:14		4:56	4:50
55	4:31	4:20		5:02	4:57
50	4:39	4:27		5:10	5:05
45	4:47	4:33		5:15	5:12
40	4:57	4:44		5:25	5:23
35	5:07	4:54		5:37	5:36
30	5:20	5:05		5:50	5:48
25	5:40	5:24		6:02	6:02
20	6:00	5:49		6:20	6:28
5	6:33	6:30		6:56	7:12

* ½ Mile

TRAINING OFFICERS MANUAL

CURL-UP FOR BOYS

Percentile Scores Based on Age/Test in No. of Curl-ups in 60 seconds

PERCENTILE	AGE									
	8	9	10	11	12	13	14	15	16	17+
100	40	41	45	47	50	53	56	57	56	55
95	38	40	43	45	48	51	54	55	53	53
90	37	38	41	43	47	50	52	53	51	51
85	36	37	40	42	45	48	51	51	50	50
80	35	35	40	40	44	46	49	50	48	48
75	34	34	38	39	43	45	48	49	48	46
70	32	33	36	38	42	43	47	47	46	45
65	31	32	35	37	40	42	45	45	45	44
60	30	31	34	36	39	41	44	44	44	43
55	29	30	33	35	38	40	42	43	42	41
50	28	29	32	34	37	39	41	41	40	40
45	26	27	30	32	35	38	40	40	40	40
40	25	26	30	31	34	36	39	38	38	38
35	23	24	28	29	32	34	37	36	37	36
30	20	22	25	27	30	32	35	35	35	35
25	18	20	23	25	27	30	33	32	31	32
20	14	16	19	20	25	26	28	29	27	27
0	0	1	4	0	7	0	0	0	6	1

CURL-UP FOR GIRLS

Percentile Scores Based on Age/Test in No. of Curl-ups in 60 seconds

PERCENTILE	AGE									
	8	9	10	11	12	13	14	15	16	17+
100	38	39	40	42	45	46	47	48	45	44
95	36	38	38	40	43	44	45	46	43	41
90	35	36	37	39	41	42	43	44	41	40
85	33	35	35	37	40	42	42	41	40	38
80	31	34	34	35	39	40	41	40	38	37
75	30	32	32	35	38	40	40	39	37	36
70	30	31	32	33	36	38	39	37	36	35
65	29	30	30	32	35	37	37	36	35	34
60	28	30	29	31	34	36	36	35	34	33
55	27	29	28	30	32	35	35	34	33	31
50	25	27	27	29	31	33	34	32	32	30
45	24	26	26	28	30	31	32	31	30	30
40	23	25	25	27	29	30	31	30	30	28
35	22	23	23	25	27	28	30	28	27	25
30	20	20	21	24	25	26	28	26	25	25
25	18	19	19	20	23	23	25	23	23	22
20	12	13	14	16	20	19	20	20	19	19
0	0	0	0	2	0	0	0	0	0	0

TRAINING OFFICERS MANUAL

PARTIAL CURL-UP FOR BOYS (MODIFIED)

Percentile Scores Based on Age/Test in No. of Curl-ups every 3 sec.

PERCENTILE	AGE									
	8	9	10	11	12	13	14	15	16	17+
95	30	37	35	43	64	59	62	75	73	66
90	27	33	35	40	58	55	58	70	61	63
85	26	30	30	37	54	51	54	67	50	58
80	25	27	29	35	48	48	52	60	48	50
75	22	26	28	30	42	45	50	51	45	50
70	20	23	27	29	36	42	48	50	40	47
65	17	22	25	27	34	40	43	47	38	44
60	17	20	24	26	32	39	40	45	37	42
55	16	19	21	23	31	37	39	42	36	41
50	15	18	20	22	31	35	33	40	34	39
45	14	16	19	21	29	31	31	36	33	33
40	13	15	19	21	27	31	30	32	30	31
35	12	14	16	18	26	30	30	30	29	30
30	11	14	14	18	24	30	28	29	28	28
25	10	11	12	17	22	28	24	26	24	25
20	9	11	10	13	18	21	24	22	23	24
5	7	10	7	8	11	16	21	20	16	19

PARTIAL CURL-UP FOR GIRLS (MODIFIED)

Percentile Scores Based on Age/Test in No. of Curl-ups every 3 sec.

PERCENTILE	AGE									
	8	9	10	11	12	13	14	15	16	17+
95	30	37	33	43	50	59	48	38	49	58
90	27	33	29	40	49	52	44	37	41	50
85	26	30	28	39	43	50	41	35	35	49
80	25	27	27	37	40	46	40	35	32	48
75	22	26	26	34	39	45	37	30	29	44
70	20	23	25	32	34	41	33	30	27	42
65	17	22	25	30	32	40	31	28	26	40
60	17	20	24	27	30	40	30	26	26	40
55	16	19	24	25	29	38	30	25	24	35
50	15	18	21	24	26	36	28	25	23	33
45	14	16	20	23	25	36	26	22	21	30
40	13	15	19	21	24	32	25	22	20	30
35	12	14	18	20	22	29	22	20	20	30
30	11	14	17	18	21	27	21	19	19	28
25	10	11	17	18	19	22	20	15	16	26
20	9	11	12	18	16	20	16	13	15	24
5	7	10	10	14	4	16	10	10	11	11

TRAINING OFFICERS MANUAL

FLEXED-ARM HANG FOR BOYS (12 and under only)

Percentile Scores Based on Age/Test Scores in Seconds

PERCENTILE	AGE				
	8	9	10	11	12
100	23	24	31	31	30
95	18	20	25	26	25
90	17	18	22	22	21
85	15	16	20	19	19
80	14	14	17	17	16
75	12	12	15	15	15
70	11	11	14	13	13
65	10	10	12	11	12
60	9	8	10	10	10
55	8	8	8	9	9
50	6	7	7	7	8
45	5	5	6	6	6
40	4	5	5	5	5
35	3	3	3	4	4
30	2	3	2	3	2
25	1	2	1	1	1
20	0	0	0	0	0
0	0	0	0	0	0

FLEXED-ARM HANG FOR GIRLS

Percentile Scores Based on Age/Test Scores in Seconds

PERCENTILE	AGE									
	8	9	10	11	12	13	14	15	16	17+
100	17	20	22	20	21	21	25	28	24	24
95	15	16	19	16	16	19	21	23	21	20
90	13	14	16	14	14	16	18	18	18	18
85	11	12	14	13	13	14	16	15	16	15
80	10	11	12	11	11	12	13	12	13	12
75	10	10	11	9	10	10	11	10	10	11
70	9	9	9	8	8	9	10	9	9	10
65	8	8	8	7	7	8	9	7	7	7
60	7	7	7	6	6	6	7	6	6	6
55	6	6	6	5	5	5	6	5	5	5
50	5	5	5	4	4	5	5	4	4	5
45	4	4	4	4	3	4	4	4	3	4
40	3	3	3	3	2	3	3	3	2	2
35	3	2	2	2	1	1	2	2	2	2
30	1	1	1	1	1	1	1	1	1	1
25	0	0	0	0	0	0	0	1	0	1
20	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0

TRAINING OFFICERS MANUAL

PULL-UPS FOR BOYS

Percentile Scores Based on Age/Test Scores in Number of Pull-ups

PERCENTILE	AGE									
	8	9	10	11	12	13	14	15	16	17+
100					7	7	10	11	11	13
95					6	7	9	10	10	12
90					5	6	8	10	10	11
85					5	5	7	9	9	10
80					4	5	6	8	8	10
75					3	4	6	7	8	10
70					3	4	5	7	7	9
65					2	3	5	6	7	8
60					2	2	4	5	7	7
55					1	2	4	5	6	7
50					1	1	3	4	5	6
45					1	1	3	4	5	5
40					0	1	2	3	4	5
35					0	0	1	2	4	4
30					0	0	1	2	3	3
25					0	0	0	1	2	2
20					0	0	0	0	0	1
0					0	0	0	0	0	0

TRAINING OFFICERS MANUAL

RIGHT ANGLE PUSH-UPS FOR BOYS (MODIFIED)

Percentile Scores Based on Age/Test Scores in # of Push-ups every 3 sec.

PERCENTILE	AGE									
	8	9	10	11	12	13	14	15	16	17+
95	17	18	22	27	31	39	40	42	44	53
90	15	17	21	26	30	35	37	40	41	50
85	14	17	20	24	28	35	32	37	40	46
80	13	15	18	23	25	31	30	35	36	44
75	12	15	18	20	24	30	28	34	34	43
70	11	13	16	19	20	28	25	32	32	41
65	10	12	14	16	20	26	24	31	30	40
60	9	12	14	15	18	24	24	30	30	37
55	9	11	13	15	17	21	22	30	29	35
50	8	10	12	14	15	20	21	27	28	34
45	8	9	12	12	15	20	20	25	25	30
40	7	8	11	10	13	16	18	25	25	30
35	7	8	11	10	12	16	18	24	25	27
30	6	7	10	8	10	12	15	21	23	25
25	6	5	8	5	9	11	13	20	22	23
20	4	5	7	3	7	9	11	18	20	21
5	2	3	4	1	4	4	7	15	15	20

RIGHT ANGLE PUSH-UPS FOR GIRLS (MODIFIED)

Percentile Scores Based on Age/Test Scores in # of Push-ups every 3 sec.

PERCENTILE	AGE									
	8	9	10	11	12	13	14	15	16	17+
95	17	18	20	19	20	21	20	20	24	25
90	15	17	19	18	20	17	19	20	22	22
85	14	17	19	17	17	17	15	20	20	20
80	13	15	17	17	15	15	12	18	19	19
75	12	15	17	16	12	14	11	18	16	18
70	11	13	14	15	11	13	10	16	15	17
65	10	12	14	12	10	12	10	15	13	16
60	9	12	13	11	10	11	10	15	12	16
55	9	11	11	9	10	10	9	15	12	15
50	8	10	10	8	8	10	8	13	12	15
45	8	9	10	8	7	8	5	11	11	14
40	7	8	9	7	5	7	5	11	10	12
35	7	8	8	7	5	6	5	11	8	11
30	6	7	8	6	3	5	5	10	5	9
25	6	5	7	4	2	4	3	7	4	7
20	4	5	4	2	1	3	2	5	3	5
5	2	3	1	1	1	2	1	2	1	2

TRAINING OFFICERS MANUAL

SHUTTLE RUN FOR BOYS

Percentile Scores Based on Age/Test Scores in Seconds and Tenths

PERCENTILE	AGE									
	8	9	10	11	12	13	14	15	16	17+
100	11.1	10.9	10.3	10.0	9.8	9.5	9.1	9.0	8.7	8.7
95	11.2	11.0	10.5	10.2	9.9	9.6	9.3	9.1	8.9	8.9
90	11.4	11.1	10.7	10.4	10.0	9.8	9.4	9.2	8.9	8.9
85	11.5	11.3	10.8	10.5	10.1	9.9	9.5	9.3	9.0	9.0
80	11.8	11.5	11.0	10.6	10.3	10.0	9.6	9.4	9.1	9.1
75	11.9	11.6	11.2	10.8	10.4	10.1	9.7	9.5	9.2	9.2
70	12.0	11.8	11.3	11.0	10.5	10.1	9.8	9.5	9.3	9.3
65	12.2	11.9	11.5	11.1	10.6	10.2	9.9	9.7	9.4	9.4
60	12.3	12.0	11.6	11.2	10.7	10.3	10.0	9.8	9.5	9.5
55	12.5	12.2	11.8	11.4	10.8	10.4	10.1	9.9	9.6	9.6
50	12.7	12.5	12.0	11.5	11.0	10.6	10.2	10.0	9.7	9.6
45	13.0	12.8	12.2	11.7	11.1	10.7	10.3	10.1	9.8	9.8
40	13.3	13.0	12.4	12.0	11.2	10.8	10.5	10.2	10.0	9.9
35	13.6	13.3	12.7	12.2	11.4	11.0	10.7	10.4	10.1	10.1
30	13.8	13.6	13.1	12.6	11.6	11.1	11.0	10.7	10.3	10.3
25	14.2	14.1	13.6	13.0	12.0	11.4	11.3	11.0	10.6	10.6
20	15.0	14.5	14.5	13.5	12.4	12.0	12.0	11.8	11.1	11.1
0	18.0	18.8	16.9	16.8	16.1	16.4	19.9	19.8	23.0	23.0

SHUTTLE RUN FOR GIRLS

Percentile Scores Based on Age/Test Scores in Seconds and Tenths

PERCENTILE	AGE									
	8	9	10	11	12	13	14	15	16	17+
100	11.8	11.1	10.8	10.5	10.4	10.2	10.1	10.0	10.1	10.0
95	12.0	11.3	11.1	10.6	10.5	10.4	10.3	10.1	10.2	10.2
90	12.1	11.5	11.3	10.8	10.7	10.5	10.5	10.3	10.4	10.3
85	12.2	11.7	11.4	11.0	10.8	10.6	10.6	10.4	10.5	10.4
80	12.4	11.9	11.6	11.1	10.9	10.8	10.8	10.6	10.6	10.6
75	12.6	12.1	11.8	11.2	11.0	10.9	10.9	10.7	10.7	10.7
70	12.8	12.2	11.9	11.4	11.2	11.0	11.0	10.8	10.8	10.9
65	12.9	12.5	12.1	11.5	11.3	11.1	11.2	11.0	10.9	11.0
60	13.0	12.7	12.2	11.7	11.4	11.2	11.3	11.1	11.0	11.1
55	13.3	12.9	12.4	11.9	11.5	11.4	11.4	11.2	11.2	11.2
50	13.5	13.0	12.6	12.1	11.7	11.5	11.6	11.4	11.4	11.3
45	13.7	13.2	12.8	12.2	11.9	11.6	11.7	11.5	11.5	11.5
40	13.9	13.4	13.1	12.5	12.1	11.8	11.9	11.7	11.7	11.7
35	14.3	13.7	13.3	12.8	12.3	12.0	12.1	11.9	11.9	11.9
30	14.8	14.0	13.7	13.0	12.5	12.4	12.5	12.2	12.2	12.1
25	15.2	14.6	14.2	13.4	12.9	12.8	12.9	12.6	12.6	12.7
20	16.2	15.6	15.0	14.0	13.4	13.4	14.0	13.2	13.2	13.2
0	20.5	20.5	17.8	20.6	16.1	19.8	21.4	16.6	15.4	19.8

TRAINING OFFICERS MANUAL

SIT AND REACH FOR BOYS (MODIFIED)

Percentile Scores Based on Age/Test Scores in Centimeters

PERCENTILE	AGE								
	8	9	10	11	12	13	14	15	16
99	31	31	30	31	31	33	36	37	38
95	30	30	29	30	30	32	34	36	37
90	29	29	28	29	29	30	33	34	36
85	28	28	28	28	29	29	31	33	35
80	27	28	27	27	28	28	30	32	34
75	27	27	26	26	27	27	30	32	32
70	26	26	26	26	27	27	29	31	31
65	25	25	25	25	26	26	28	30	30
60	25	25	24	24	25	25	27	29	29
55	24	24	23	23	24	24	26	28	28
50	23	23	22	23	23	23	25	27	27
45	23	22	21	22	22	22	24	26	26
40	22	22	20	21	21	20	23	24	25
35	20	20	18	18	18	18	21	22	21
30	18	18	17	16	16	15	18	19	18
25	16	16	12	12	13	12	15	13	11

SIT AND REACH FOR GIRLS (MODIFIED)

Percentile Scores Based on Age/Test Scores in Centimeters

PERCENTILE	AGE								
	8	9	10	11	12	13	14	15	16
99	33	33	33	34	36	38	40	43	42
95	32	32	32	33	35	37	39	42	41
90	31	31	31	32	34	36	38	41	39
85	30	30	30	31	33	35	36	40	38
80	30	30	29	30	32	33	36	39	37
75	29	29	29	30	32	32	35	37	36
70	28	28	28	29	31	31	34	37	35
65	28	28	28	29	30	31	33	36	34
60	27	27	27	28	29	30	32	34	33
55	26	26	27	27	28	29	31	33	33
50	25	25	26	26	27	27	30	32	32
45	24	24	25	25	26	26	29	32	31
40	23	23	24	24	25	24	28	31	30
35	22	22	22	23	23	23	26	30	28
30	21	21	21	22	22	22	24	28	26
25	19	20	19	20	20	20	23	25	23
20	17	17	16	16	15	17	18	19	14

TRAINING OFFICERS MANUAL

V-SIT REACH FOR BOYS

Percentile Scores Based on Age/Test Scores in Inches

PERCENTILE	AGE									
	8	9	10	11	12	13	14	15	16	17+
100	3.0	3.0	4.0	4.0	4.0	3.5	4.5	5.0	6.0	7.0
95	2.5	3.0	3.0	4.0	3.0	3.0	4.0	5.0	5.5	6.0
90	2.0	2.0	3.0	3.0	3.0	2.5	3.5	4.0	5.0	5.5
85	2.0	2.0	2.0	2.5	2.0	2.0	3.0	4.0	4.5	5.0
80	1.0	1.5	2.0	2.0	2.0	1.5	2.5	3.0	4.0	4.5
75	1.0	1.0	1.5	2.0	1.5	1.0	2.0	3.0	3.5	4.0
70	1.0	1.0	1.0	1.0	1.0	1.0	2.0	2.5	3.0	3.5
65	0.5	1.0	1.0	1.0	1.0	0.5	1.0	2.0	3.0	3.0
60	0.0	0.0	0.5	1.0	0.0	0.0	1.0	2.0	2.0	3.0
55	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	2.0	2.0
50	-1.0	-0.5	0.0	0.0	-0.5	-1.0	0.0	1.0	1.5	1.5
45	-1.0	-1.0	0.0	-1.0	-1.0	-1.0	0.0	0.0	1.0	1.0
40	-1.5	-1.5	-1.0	-1.0	-2.0	-2.0	-1.0	0.0	0.5	1.0
35	-2.0	-2.0	-2.0	-2.0	-2.0	-2.5	-2.0	-1.0	0.0	0.0
30	-3.0	-2.5	-2.5	-3.0	-3.0	-3.0	-2.0	-2.0	-1.0	-1.0
25	-3.0	-3.0	-3.5	-3.5	-4.5	-4.0	-4.0	-3.0	-3.0	-2.0
20	-4.0	-5.0	-5.0	-5.0	-6.0	-6.0	-5.0	-5.0	-4.0	-4.0
0	-10.0	-13.0	-12.0	-10.0	-12.0	-12.5	-12.0	-10.0	-12.0	-10.0

V-SIT REACH FOR GIRLS

Percentile Scores Based on Age/Test Scores in Inches

PERCENTILE	AGE									
	8	9	10	11	12	13	14	15	16	17+
100	4.5	5.5	6.0	6.5	7.0	7.0	8.0	8.0	9.0	8.0
95	4.0	5.0	5.0	6.0	6.0	6.0	7.0	7.5	8.0	7.5
90	4.0	4.0	5.0	5.0	6.0	6.0	6.5	7.0	8.0	7.0
85	3.5	4.0	4.0	5.0	5.0	5.0	6.0	6.5	7.0	6.0
80	3.0	3.5	4.0	4.5	5.0	5.0	6.0	6.0	7.0	6.0
75	3.0	3.0	3.0	4.0	4.5	4.5	5.0	6.0	6.0	5.5
70	2.5	3.0	3.0	4.0	4.0	4.0	5.0	5.0	6.0	5.0
65	2.0	2.0	3.0	3.0	3.5	3.5	4.5	5.0	5.5	4.5
60	2.0	2.0	2.5	3.0	3.0	3.0	4.0	4.5	5.0	4.0
55	1.5	2.0	2.0	2.5	3.0	3.0	4.0	4.0	4.5	4.0
50	1.0	1.0	2.0	2.0	2.5	2.5	3.5	3.5	4.0	3.5
45	1.0	1.0	1.0	1.5	2.0	2.0	3.0	3.0	4.0	3.0
40	0.5	0.0	1.0	1.0	2.0	2.0	2.5	2.0	3.0	2.5
35	0.0	0.0	0.5	1.0	1.0	1.0	2.0	2.0	2.5	2.0
30	0.0	-0.5	0.0	0.0	0.5	0.5	1.0	1.0	2.0	1.5
25	-1.0	-1.0	-1.0	-0.5	0.0	0.0	0.0	0.5	1.0	1.0
20	-2.5	-3.0	-2.5	-3.0	-2.5	-2.5	-1.5	-1.0	-0.5	-1.0
0	-6.0	-11.0	-17.0	-11.0	-11.0	-11.0	-10.0	-10.0	-6.0	-12.0