

Name: _____ Date: _____

In this workout, you run to determine your long-distance endurance pace and threshold heart rate.

Instructions

1. Put on a heart rate monitor and set the record feature.
2. Warm up with an easy jog for 10 minutes.
3. Make sure your heart rate monitor is working.
4. Clear your monitor and push the start button.
5. Begin running at the highest heart rate and pace you believe you can sustain for 20 minutes.
6. Stop your heart rate monitor at the end of 20 minutes.
7. Record the distance you ran.
8. Record your average heart rate for the 20-minute run.
9. Clear your heart rate monitor.
10. Recover for four minutes by walking.
11. Start the heart rate monitor again.
12. Repeat the 20-minute run at the highest heart rate and pace that you believe you can sustain for 20 minutes.
13. Stop at the end of 20 minutes.
14. Record your average heart rate for the second 20-minute run.
15. Record the distance you ran the second time.
16. Cool down by walking for 10 to 15 minutes.
17. Answer the questions, and complete the During-Event Analysis table using the data from your monitor.

Questions

What is your average heart rate for the two-by-twenty workout?

What is your predicted finish time for the marathon?

What was your pace per mile?

How can you improve your pace?

Comment

Knowing the pace you are currently running and your predicted finish time gives you a clear picture of what to expect. If you do this assessment at the beginning of the training period and again four to six weeks later, you should see an improvement.

During-Event Analysis: Two-by-Twenty Workout

Name of player: _____ Event date: _____

Name of record keeper: _____ Event description: Two-by-twenty
workout

Player's sport-specific aerobic threshold: _____ bpm

Player's sport-specific anaerobic threshold: _____ bpm

Player's MHR: _____ bpm

Interval	Distance and pace	Average heart rate (bpm)	NUMBER OF MINUTES IN EACH ZONE				
			Z1	Z2	Z3	Z4	Z5
1.							
2.							
Estimated							

RUNNING PACE CHART: SHORT DISTANCE

Time per mile	2 miles	3 miles	5K (3.107 miles)	3.5 miles	5 miles	6 miles	10K (6.214 miles)	15K (9.321 miles)
4:45	9:30	14:15	14:45	16:38	23:45	28:30	29:31	44:16
5:00	10:00	15:00	15:32	17:30	25:00	30:00	31:04	46:36
5:15	10:30	15:45	16:19	18:22	26:15	31:30	32:37	48:56
5:30	11:00	16:30	17:05	19:15	27:30	33:00	34:11	51:16
5:45	11:30	17:15	17:52	20:08	28:45	34:30	35:44	53:36
6:00	12:00	18:00	18:38	21:00	30:00	36:00	37:17	55:55
6:15	12:30	18:45	19:25	21:53	31:15	37:30	38:50	58:15
6:30	13:00	19:30	20:12	22:45	32:30	39:00	40:23	1:00:35
6:45	13:30	20:15	20:58	23:37	33:45	40:30	41:57	1:02:55
7:00	14:00	21:00	21:45	24:30	35:00	42:00	43:30	1:05:15
7:15	14:30	21:45	22:31	25:22	36:15	43:30	45:03	1:07:34
7:30	15:00	22:30	23:18	26:15	37:30	45:00	46:36	1:09:54
7:45	15:30	23:15	24:05	27:08	38:45	46:30	48:09	1:12:14
8:00	16:00	24:00	24:51	28:00	40:00	48:00	49:43	1:14:34
8:15	16:30	24:45	25:38	28:53	41:15	49:30	51:16	1:16:54
8:30	17:00	25:30	26:24	29:45	42:30	51:00	52:49	1:19:13
8:45	17:30	26:15	27:11	30:37	43:45	52:30	54:22	1:21:33
9:00	18:00	27:00	27:58	31:30	45:00	54:00	55:55	1:23:53
9:15	18:30	27:45	28:44	32:23	46:15	55:30	57:29	1:26:13
9:30	19:00	28:30	29:31	33:15	47:30	57:00	59:02	1:28:33
9:45	19:30	29:15	30:18	34:07	48:45	58:30	1:00:35	1:30:53
10:00	20:00	30:00	31:04	35:00	50:00	1:00:00	1:02:08	1:33:12
10:30	21:30	31:30	32:37	36:45	52:30	1:03:00	1:05:15	1:37:52
11:00	22:00	33:00	34:11	38:30	55:00	1:06:00	1:08:21	1:42:32
11:30	23:00	34:30	35:44	40:15	57:30	1:09:00	1:11:27	1:47:11
12:00	24:00	36:00	37:17	42:00	1:00:00	1:12:00	1:14:34	1:51:51

See longer distances in the following chart.

RUNNING PACE CHART: LONGER DISTANCES

Time per mile	10 miles	20K (12.427 miles)	Half marathon (13.109 miles)	15 miles	25K (15.534 miles)	30K (18.641 miles)	20 miles	Marathon (26.219 miles)
4:45	47:30	59:02	1:02:16	1:11:15	1:13:47	1:28:33	1:35:00	2:04:32
5:00	50:00	1:02:08	1:05:33	1:15:00	1:17:40	1:33:12	1:40:00	2:11:06
5:15	52:30	1:05:15	1:08:49	1:18:45	1:21:33	1:37:52	1:45:00	2:17:39
5:30	55:00	1:08:21	1:12:06	1:22:30	1:25:26	1:42:32	1:50:00	2:24:12
5:45	57:30	1:11:27	1:15:23	1:26:15	1:29:19	1:47:11	1:55:00	2:30:45
6:00	1:00:00	1:14:34	1:18:39	1:30:00	1:33:12	1:51:51	2:00:00	2:37:19
6:15	1:02:30	1:17:40	1:21:56	1:33:45	1:37:05	1:56:30	2:05:00	2:43:52
6:30	1:05:00	1:20:47	1:25:13	1:37:30	1:40:58	2:01:10	2:10:00	2:50:25
6:45	1:07:30	1:23:53	1:28:29	1:41:15	1:44:51	2:05:50	2:15:00	2:56:59
7:00	1:10:00	1:27:00	1:31:46	1:45:00	1:48:44	2:10:29	2:20:00	3:03:32
7:15	1:12:30	1:30:06	1:35:03	1:48:45	1:52:37	2:15:09	2:25:00	3:10:05
7:30	1:15:00	1:33:12	1:38:19	1:52:30	1:56:30	2:19:49	2:30:00	3:16:38
7:45	1:17:30	1:36:19	1:41:36	1:56:15	2:00:23	2:24:28	2:35:00	3:23:12
8:00	1:20:00	1:39:25	1:44:53	2:00:00	2:04:16	2:29:08	2:40:00	3:29:45
8:15	1:22:30	1:42:32	1:48:09	2:03:45	2:08:09	2:33:47	2:45:00	3:36:18
8:30	1:25:00	1:45:38	1:51:26	2:07:30	2:12:02	2:38:27	2:50:00	3:42:52
8:45	1:27:30	1:48:44	1:54:42	2:11:15	2:15:55	2:43:07	2:55:00	3:49:25
9:00	1:30:00	1:51:51	1:57:59	2:15:00	2:19:49	2:47:46	3:00:00	3:55:58
9:15	1:32:30	1:54:57	2:01:16	2:18:45	2:23:42	2:52:26	3:05:00	4:02:31
9:30	1:35:00	1:58:04	2:04:32	2:22:30	2:27:35	2:57:05	3:10:00	4:09:05
9:45	1:37:30	2:01:10	2:07:49	2:26:15	2:31:28	3:01:45	3:15:00	4:15:38
10:00	1:40:00	2:04:16	2:11:06	2:30:00	2:35:21	3:06:25	3:20:00	4:22:11
10:30	1:45:00	2:10:29	2:17:39	2:37:30	2:43:07	3:15:44	3:30:00	4:35:18
11:00	1:50:00	2:16:42	2:24:12	2:45:00	2:50:53	3:25:03	3:40:00	4:48:24
11:30	1:55:00	2:22:55	2:30:45	2:52:30	2:58:39	3:34:22	3:50:00	5:01:31
12:00	2:00:00	2:29:08	2:37:19	3:00:00	3:06:25	3:43:42	4:00:00	5:14:37

See shorter distances in the previous chart.

From D. Swaim, 2013, *Heart education* (Champaign, IL: Human Kinetics).