

Source of data: <http://astro.ukho.gov.uk/websurf/>

City: Manchester (central) UK

Postcode: M13 9WL

Longitude: 002 14 W

Latitude: 53 28 N

Year	Month	Date	Upper								Lower	
			Twilight 18°	Sunrise	Transit	Shadow 1	Shadow 2	Sunset	Twilight 15°	Twilight 18°	Transit	
2023	1	1	06:14	08:25	12:12	13:45	14:14	16:00	17:49	18:11	00:00	
2023	1	2	06:14	08:25	12:13	13:46	14:15	16:01	17:50	18:11	00:01	
2023	1	3	06:14	08:24	12:13	13:47	14:16	16:02	17:51	18:12	00:01	
2023	1	4	06:14	08:24	12:14	13:48	14:17	16:04	17:52	18:13	00:14	
2023	1	5	06:14	08:24	12:14	13:49	14:18	16:05	17:54	18:15	00:14	
2023	1	6	06:14	08:23	12:15	13:50	14:19	16:06	17:55	18:16	00:15	
2023	1	7	06:14	08:23	12:15	13:51	14:21	16:08	17:56	18:17	00:15	
2023	1	8	06:14	08:22	12:15	13:53	14:22	16:09	17:57	18:18	00:15	
2023	1	9	06:13	08:22	12:16	13:54	14:23	16:10	17:58	18:19	00:16	
2023	1	10	06:13	08:21	12:16	13:55	14:25	16:12	17:59	18:20	00:16	
2023	1	11	06:12	08:20	12:17	13:56	14:26	16:13	18:01	18:21	00:17	
2023	1	12	06:12	08:20	12:17	13:57	14:28	16:15	18:02	18:23	00:17	
2023	1	13	06:11	08:19	12:17	13:59	14:29	16:17	18:03	18:24	00:17	
2023	1	14	06:11	08:18	12:18	14:00	14:31	16:18	18:05	18:25	00:18	
2023	1	15	06:10	08:17	12:18	14:01	14:32	16:20	18:06	18:27	00:18	
2023	1	16	06:10	08:16	12:19	14:03	14:34	16:21	18:07	18:28	00:19	
2023	1	17	06:09	08:15	12:19	14:04	14:35	16:23	18:09	18:29	00:19	
2023	1	18	06:08	08:14	12:19	14:06	14:37	16:25	18:10	18:31	00:19	
2023	1	19	06:07	08:13	12:20	14:07	14:39	16:27	18:12	18:32	00:20	
2023	1	20	06:07	08:12	12:20	14:08	14:40	16:28	18:13	18:34	00:20	
2023	1	21	06:06	08:11	12:20	14:10	14:42	16:30	18:15	18:35	00:20	
2023	1	22	06:05	08:09	12:20	14:11	14:44	16:32	18:16	18:37	00:20	
2023	1	23	06:04	08:08	12:21	14:13	14:45	16:34	18:18	18:38	00:21	
2023	1	24	06:03	08:07	12:21	14:14	14:47	16:36	18:19	18:40	00:21	
2023	1	25	06:02	08:05	12:21	14:16	14:49	16:38	18:21	18:41	00:21	
2023	1	26	06:01	08:04	12:21	14:17	14:51	16:40	18:22	18:43	00:21	
2023	1	27	06:00	08:02	12:22	14:19	14:53	16:41	18:24	18:44	00:22	
2023	1	28	05:58	08:01	12:22	14:20	14:54	16:43	18:25	18:46	00:22	
2023	1	29	05:57	07:59	12:22	14:22	14:56	16:45	18:27	18:47	00:22	
2023	1	30	05:56	07:58	12:22	14:23	14:58	16:47	18:29	18:49	00:22	
2023	1	31	05:55	07:56	12:22	14:25	15:00	16:49	18:30	18:51	00:22	
2023	2	1	05:53	07:54	12:22	14:26	15:02	16:51	18:32	18:52	00:22	
2023	2	2	05:52	07:53	12:23	14:28	15:03	16:53	18:34	18:54	00:23	
2023	2	3	05:51	07:51	12:23	14:30	15:05	16:55	18:35	18:56	00:23	
2023	2	4	05:49	07:49	12:23	14:31	15:07	16:57	18:37	18:57	00:23	
2023	2	5	05:48	07:47	12:23	14:33	15:09	16:59	18:39	18:59	00:23	
2023	2	6	05:46	07:46	12:23	14:34	15:11	17:01	18:40	19:01	00:23	
2023	2	7	05:45	07:44	12:23	14:36	15:13	17:03	18:42	19:02	00:23	
2023	2	8	05:43	07:42	12:23	14:37	15:14	17:05	18:44	19:04	00:23	
2023	2	9	05:41	07:40	12:23	14:39	15:16	17:07	18:46	19:06	00:23	
2023	2	10	05:40	07:38	12:23	14:40	15:18	17:09	18:47	19:08	00:23	
2023	2	11	05:38	07:36	12:23	14:42	15:20	17:11	18:49	19:09	00:23	
2023	2	12	05:36	07:34	12:23	14:43	15:22	17:13	18:51	19:11	00:23	
2023	2	13	05:34	07:32	12:23	14:45	15:24	17:15	18:53	19:13	00:23	
2023	2	14	05:33	07:30	12:23	14:47	15:25	17:17	18:54	19:15	00:23	
2023	2	15	05:31	07:28	12:23	14:48	15:27	17:19	18:56	19:16	00:23	
2023	2	16	05:29	07:26	12:23	14:49	15:29	17:21	18:58	19:18	00:23	
2023	2	17	05:27	07:24	12:23	14:51	15:31	17:23	19:00	19:20	00:23	
2023	2	18	05:25	07:22	12:23	14:52	15:33	17:25	19:02	19:22	00:23	
2023	2	19	05:23	07:20	12:23	14:54	15:34	17:27	19:03	19:24	00:23	
2023	2	20	05:21	07:18	12:23	14:55	15:36	17:29	19:05	19:25	00:23	
2023	2	21	05:19	07:15	12:23	14:57	15:38	17:31	19:07	19:27	00:23	
2023	2	22	05:17	07:13	12:22	14:58	15:40	17:33	19:09	19:29	00:22	
2023	2	23	05:15	07:11	12:22	15:00	15:41	17:34	19:11	19:31	00:22	
2023	2	24	05:13	07:09	12:22	15:01	15:43	17:36	19:13	19:33	00:22	
2023	2	25	05:10	07:06	12:22	15:03	15:45	17:38	19:14	19:35	00:22	

2023	2	26	05:08	07:04	12:22	15:04	15:47	17:40	19:16	19:37	00:22
2023	2	27	05:06	07:02	12:22	15:05	15:48	17:42	19:18	19:39	00:22
2023	2	28	05:04	07:00	12:21	15:07	15:50	17:44	19:20	19:40	00:21
2023	3	1	05:01	06:57	12:21	15:08	15:52	17:46	19:22	19:42	00:21
2023	3	2	04:59	06:55	12:21	15:10	15:53	17:48	19:24	19:44	00:21
2023	3	3	04:57	06:53	12:21	15:11	15:55	17:50	19:26	19:46	00:21
2023	3	4	04:54	06:50	12:21	15:12	15:57	17:52	19:28	19:48	00:21
2023	3	5	04:52	06:48	12:20	15:14	15:58	17:54	19:29	19:50	00:20
2023	3	6	04:50	06:46	12:20	15:15	16:00	17:56	19:31	19:52	00:20
2023	3	7	04:47	06:43	12:20	15:16	16:02	17:57	19:33	19:54	00:20
2023	3	8	04:45	06:41	12:20	15:17	16:03	17:59	19:35	19:56	00:20
2023	3	9	04:42	06:39	12:19	15:19	16:05	18:01	19:37	19:58	00:19
2023	3	10	04:40	06:36	12:19	15:20	16:06	18:03	19:39	20:00	00:19
2023	3	11	04:37	06:34	12:19	15:21	16:08	18:05	19:41	20:02	00:19
2023	3	12	04:35	06:32	12:19	15:23	16:10	18:07	19:43	20:04	00:19
2023	3	13	04:32	06:29	12:18	15:24	16:11	18:09	19:45	20:06	00:18
2023	3	14	04:29	06:27	12:18	15:25	16:13	18:11	19:47	20:08	00:18
2023	3	15	04:27	06:24	12:18	15:26	16:14	18:12	19:49	20:11	00:18
2023	3	16	04:24	06:22	12:18	15:27	16:16	18:14	19:51	20:13	00:18
2023	3	17	04:21	06:20	12:17	15:28	16:17	18:16	19:53	20:15	00:17
2023	3	18	04:19	06:17	12:17	15:30	16:19	18:18	19:55	20:17	00:17
2023	3	19	04:16	06:15	12:17	15:31	16:20	18:20	19:57	20:19	00:17
2023	3	20	04:13	06:12	12:16	15:32	16:22	18:22	19:59	20:21	00:16
2023	3	21	04:10	06:10	12:16	15:33	16:23	18:24	20:01	20:24	00:16
2023	3	22	04:08	06:07	12:16	15:34	16:25	18:25	20:03	20:26	00:16
2023	3	23	04:05	06:05	12:16	15:35	16:26	18:27	20:06	20:28	00:16
2023	3	24	04:02	06:03	12:15	15:36	16:27	18:29	20:08	20:30	00:15
2023	3	25	03:59	06:00	12:15	15:37	16:29	18:31	20:10	20:33	00:15
2023	3	26	04:56	06:58	13:15	16:39	17:30	19:33	21:12	21:35	01:15
2023	3	27	04:53	06:55	13:14	16:40	17:32	19:35	21:14	21:37	01:14
2023	3	28	04:50	06:53	13:14	16:41	17:33	19:36	21:16	21:40	01:14
2023	3	29	04:47	06:50	13:14	16:42	17:34	19:38	21:19	21:42	01:14
2023	3	30	04:44	06:48	13:13	16:43	17:36	19:40	21:21	21:44	01:01
2023	3	31	04:41	06:46	13:13	16:44	17:37	19:42	21:23	21:47	01:01
2023	4	1	04:38	06:43	13:13	16:45	17:39	19:44	21:25	21:49	01:01
2023	4	2	04:35	06:41	13:13	16:46	17:40	19:46	21:28	21:52	01:01
2023	4	3	04:32	06:38	13:12	16:47	17:41	19:47	21:30	21:54	01:00
2023	4	4	04:29	06:36	13:12	16:48	17:42	19:49	21:32	21:57	01:00
2023	4	5	04:26	06:34	13:12	16:49	17:44	19:51	21:35	22:00	01:00
2023	4	6	04:23	06:31	13:11	16:50	17:45	19:53	21:37	22:02	01:23
2023	4	7	04:19	06:29	13:11	16:51	17:46	19:55	21:39	22:05	01:23
2023	4	8	04:16	06:26	13:11	16:51	17:48	19:56	21:42	22:08	01:23
2023	4	9	04:13	06:24	13:11	16:52	17:49	19:58	21:44	22:10	01:23
2023	4	10	04:10	06:22	13:10	16:53	17:50	20:00	21:47	22:13	01:10
2023	4	11	04:06	06:19	13:10	16:54	17:52	20:02	21:49	22:16	01:10
2023	4	12	04:03	06:17	13:10	16:55	17:53	20:04	21:52	22:19	01:10
2023	4	13	04:00	06:15	13:10	16:56	17:54	20:06	21:54	22:22	01:10
2023	4	14	03:56	06:12	13:09	16:57	17:55	20:07	21:57	22:25	01:09
2023	4	15	03:53	06:10	13:09	16:58	17:56	20:09	21:59	22:28	01:09
2023	4	16	03:49	06:08	13:09	16:59	17:58	20:11	22:02	22:31	01:09
2023	4	17	03:46	06:05	13:09	17:00	17:59	20:13	22:05	22:34	01:09
2023	4	18	03:42	06:03	13:08	17:00	18:00	20:15	22:07	22:37	01:08
2023	4	19	03:39	06:01	13:08	17:01	18:01	20:16	22:10	22:40	01:08
2023	4	20	03:35	05:59	13:08	17:02	18:03	20:18	22:13	22:44	01:08
2023	4	21	03:31	05:56	13:08	17:03	18:04	20:20	22:16	22:47	01:08
2023	4	22	03:27	05:54	13:07	17:04	18:05	20:22	22:18	22:50	01:07
2023	4	23	03:24	05:52	13:07	17:05	18:06	20:24	22:21	22:54	01:07
2023	4	24	03:20	05:50	13:07	17:05	18:07	20:26	22:24	22:58	01:07
2023	4	25	03:16	05:48	13:07	17:06	18:08	20:27	22:27	23:01	01:07
2023	4	26	03:12	05:46	13:07	17:07	18:10	20:29	22:30	23:05	01:07
2023	4	27	03:08	05:43	13:07	17:08	18:11	20:31	22:33	23:09	01:07
2023	4	28	03:04	05:41	13:06	17:08	18:12	20:33	22:36	23:13	01:06
2023	4	29	02:59	05:39	13:06	17:09	18:13	20:35	22:39	23:17	01:06
2023	4	30	02:55	05:37	13:06	17:10	18:14	20:36	22:42	23:21	01:06

2023	5	1	02:51	05:35	13:06	17:11	18:15	20:38	22:45	23:25	01:06
2023	5	2	02:46	05:33	13:06	17:11	18:16	20:40	22:49	23:30	01:06
2023	5	3	02:41	05:31	13:06	17:12	18:17	20:42	22:52	23:35	01:06
2023	5	4	02:36	05:29	13:06	17:13	18:18	20:44	22:55	23:39	01:06
2023	5	5	02:31	05:27	13:06	17:14	18:19	20:45	22:58	23:45	01:06
2023	5	6	02:26	05:25	13:06	17:14	18:21	20:47	23:02	23:50	01:06
2023	5	7	02:21	05:23	13:05	17:15	18:22	20:49	23:05	23:56	01:05
2023	5	8	02:15	05:21	13:05	17:16	18:23	20:51	23:09	00:02	01:05
2023	5	9	02:08	05:20	13:05	17:16	18:24	20:52	23:12	00:09	01:05
2023	5	10	02:02	05:18	13:05	17:17	18:25	20:54	23:16	00:16	01:05
2023	5	11	01:54	05:16	13:05	17:18	18:26	20:56	23:20	00:25	01:05
2023	5	12	01:45	05:14	13:05	17:19	18:27	20:57	23:23	00:36	01:05
2023	5	13	01:34	05:13	13:05	17:19	18:28	20:59	23:27	24:57:00	01:05
2023	5	14	01:13	05:11	13:05	17:20	18:29	21:01	23:31	***	01:05
2023	5	15	****	05:09	13:05	17:21	18:30	21:02	23:35	***	01:05
2023	5	16	****	05:08	13:05	17:21	18:31	21:04	23:39	***	01:05
2023	5	17	****	05:06	13:05	17:22	18:32	21:06	23:44	***	01:05
2023	5	18	****	05:04	13:05	17:22	18:32	21:07	23:48	***	01:05
2023	5	19	****	05:03	13:05	17:23	18:33	21:09	23:53	***	01:05
2023	5	20	****	05:01	13:05	17:24	18:34	21:10	23:57	***	01:05
2023	5	21	****	05:00	13:06	17:24	18:35	21:12	00:02	***	01:06
2023	5	22	****	04:59	13:06	17:25	18:36	21:14	00:08	***	01:06
2023	5	23	****	04:57	13:06	17:26	18:37	21:15	00:13	***	01:06
2023	5	24	****	04:56	13:06	17:26	18:38	21:16	00:19	***	01:06
2023	5	25	****	04:55	13:06	17:27	18:39	21:18	00:26	***	01:06
2023	5	26	****	04:53	13:06	17:27	18:39	21:19	00:34	***	01:06
2023	5	27	****	04:52	13:06	17:28	18:40	21:21	24:44:00	***	01:06
2023	5	28	****	04:51	13:06	17:28	18:41	21:22	***	***	01:06
2023	5	29	****	04:50	13:06	17:29	18:42	21:23	***	***	01:06
2023	5	30	****	04:49	13:06	17:29	18:43	21:25	***	***	01:06
2023	5	31	****	04:48	13:07	17:30	18:43	21:26	***	***	01:07
2023	6	1	****	04:47	13:07	17:30	18:44	21:27	***	***	01:07
2023	6	2	****	04:46	13:07	17:31	18:45	21:28	***	***	01:07
2023	6	3	****	04:45	13:07	17:31	18:45	21:29	***	***	01:07
2023	6	4	****	04:45	13:07	17:32	18:46	21:30	***	***	01:07
2023	6	5	****	04:44	13:07	17:32	18:47	21:32	***	***	01:07
2023	6	6	****	04:43	13:08	17:33	18:47	21:33	***	***	01:08
2023	6	7	****	04:43	13:08	17:33	18:48	21:33	***	***	01:08
2023	6	8	****	04:42	13:08	17:34	18:48	21:34	***	***	01:08
2023	6	9	****	04:42	13:08	17:34	18:49	21:35	***	***	01:08
2023	6	10	****	04:41	13:08	17:34	18:49	21:36	***	***	01:08
2023	6	11	****	04:41	13:09	17:35	18:50	21:37	***	***	01:09
2023	6	12	****	04:40	13:09	17:35	18:50	21:38	***	***	01:09
2023	6	13	****	04:40	13:09	17:36	18:51	21:38	***	***	01:09
2023	6	14	****	04:40	13:09	17:36	18:51	21:39	***	***	01:09
2023	6	15	****	04:40	13:09	17:36	18:52	21:39	***	***	01:09
2023	6	16	****	04:39	13:10	17:37	18:52	21:40	***	***	01:10
2023	6	17	****	04:39	13:10	17:37	18:52	21:40	***	***	01:10
2023	6	18	****	04:39	13:10	17:37	18:53	21:41	***	***	01:10
2023	6	19	****	04:39	13:10	17:37	18:53	21:41	***	***	01:10
2023	6	20	****	04:40	13:10	17:38	18:53	21:41	***	***	01:10
2023	6	21	****	04:40	13:11	17:38	18:53	21:42	***	***	01:23
2023	6	22	****	04:40	13:11	17:38	18:54	21:42	***	***	01:23
2023	6	23	****	04:40	13:11	17:38	18:54	21:42	***	***	01:23
2023	6	24	****	04:41	13:11	17:38	18:54	21:42	***	***	01:23
2023	6	25	****	04:41	13:12	17:39	18:54	21:42	***	***	01:00
2023	6	26	****	04:41	13:12	17:39	18:54	21:42	***	***	01:00
2023	6	27	****	04:42	13:12	17:39	18:54	21:42	***	***	01:00
2023	6	28	****	04:42	13:12	17:39	18:54	21:42	***	***	01:00
2023	6	29	****	04:43	13:12	17:39	18:54	21:41	***	***	01:00
2023	6	30	****	04:44	13:13	17:39	18:54	21:41	***	***	01:01
2023	7	1	****	04:44	13:13	17:39	18:54	21:41	***	***	01:01
2023	7	2	****	04:45	13:13	17:39	18:54	21:40	***	***	01:01
2023	7	3	****	04:46	13:13	17:39	18:54	21:40	***	***	01:01

2023	7	4	****	04:47	13:13	17:39	18:54	21:39	****	****	01:01
2023	7	5	****	04:48	13:14	17:39	18:53	21:39	****	****	01:14
2023	7	6	****	04:49	13:14	17:39	18:53	21:38	****	****	01:14
2023	7	7	****	04:50	13:14	17:39	18:53	21:38	****	****	01:14
2023	7	8	****	04:51	13:14	17:39	18:53	21:37	****	****	01:14
2023	7	9	****	04:52	13:14	17:38	18:52	21:36	****	****	01:14
2023	7	10	****	04:53	13:14	17:38	18:52	21:35	****	****	01:14
2023	7	11	****	04:54	13:14	17:38	18:51	21:34	****	****	01:14
2023	7	12	****	04:55	13:15	17:38	18:51	21:33	****	****	01:15
2023	7	13	****	04:56	13:15	17:38	18:51	21:32	****	****	01:15
2023	7	14	****	04:57	13:15	17:37	18:50	21:31	****	****	01:15
2023	7	15	****	04:59	13:15	17:37	18:50	21:30	24:57:00	****	01:15
2023	7	16	****	05:00	13:15	17:37	18:49	21:29	00:46	****	01:15
2023	7	17	****	05:01	13:15	17:36	18:48	21:28	00:38	****	01:15
2023	7	18	****	05:03	13:15	17:36	18:48	21:27	00:31	****	01:15
2023	7	19	****	05:04	13:15	17:35	18:47	21:26	00:25	****	01:15
2023	7	20	****	05:06	13:15	17:35	18:46	21:24	00:20	****	01:15
2023	7	21	****	05:07	13:15	17:35	18:46	21:23	00:15	****	01:15
2023	7	22	****	05:08	13:15	17:34	18:45	21:21	00:10	****	01:15
2023	7	23	****	05:10	13:15	17:34	18:44	21:20	00:05	****	01:15
2023	7	24	****	05:11	13:15	17:33	18:43	21:19	00:00	****	01:15
2023	7	25	****	05:13	13:15	17:32	18:42	21:17	23:56	****	01:15
2023	7	26	****	05:14	13:15	17:32	18:42	21:15	23:52	****	01:15
2023	7	27	****	05:16	13:15	17:31	18:41	21:14	23:48	****	01:15
2023	7	28	****	05:18	13:15	17:31	18:40	21:12	23:44	****	01:15
2023	7	29	****	05:19	13:15	17:30	18:39	21:11	23:40	****	01:15
2023	7	30	****	05:21	13:15	17:29	18:38	21:09	23:36	24:54:00	01:15
2023	7	31	01:38	05:22	13:15	17:28	18:37	21:07	23:32	00:40	01:15
2023	8	1	01:51	05:24	13:15	17:28	18:36	21:05	23:28	00:31	01:15
2023	8	2	02:01	05:26	13:15	17:27	18:34	21:04	23:24	00:22	01:15
2023	8	3	02:09	05:27	13:15	17:26	18:33	21:02	23:21	00:15	01:15
2023	8	4	02:16	05:29	13:15	17:25	18:32	21:00	23:17	00:09	01:15
2023	8	5	02:22	05:31	13:15	17:24	18:31	20:58	23:14	00:03	01:15
2023	8	6	02:28	05:32	13:15	17:24	18:30	20:56	23:10	23:57	01:15
2023	8	7	02:33	05:34	13:15	17:23	18:29	20:54	23:06	23:52	01:15
2023	8	8	02:38	05:36	13:15	17:22	18:27	20:52	23:03	23:46	01:15
2023	8	9	02:43	05:38	13:14	17:21	18:26	20:50	22:59	23:42	01:14
2023	8	10	02:48	05:39	13:14	17:20	18:25	20:48	22:56	23:37	01:14
2023	8	11	02:52	05:41	13:14	17:19	18:23	20:46	22:53	23:32	01:14
2023	8	12	02:57	05:43	13:14	17:18	18:22	20:44	22:49	23:28	01:14
2023	8	13	03:01	05:44	13:14	17:17	18:21	20:42	22:46	23:23	01:14
2023	8	14	03:05	05:46	13:14	17:16	18:19	20:40	22:43	23:19	01:14
2023	8	15	03:09	05:48	13:13	17:14	18:18	20:38	22:39	23:15	01:01
2023	8	16	03:13	05:50	13:13	17:13	18:16	20:36	22:36	23:11	01:01
2023	8	17	03:16	05:51	13:13	17:12	18:15	20:34	22:33	23:07	01:01
2023	8	18	03:20	05:53	13:13	17:11	18:13	20:31	22:29	23:03	01:01
2023	8	19	03:24	05:55	13:13	17:10	18:12	20:29	22:26	22:59	01:01
2023	8	20	03:27	05:57	13:12	17:09	18:10	20:27	22:23	22:55	01:00
2023	8	21	03:30	05:58	13:12	17:07	18:08	20:25	22:20	22:51	01:00
2023	8	22	03:34	06:00	13:12	17:06	18:07	20:23	22:17	22:47	01:00
2023	8	23	03:37	06:02	13:12	17:05	18:05	20:20	22:13	22:44	01:00
2023	8	24	03:40	06:04	13:11	17:04	18:03	20:18	22:10	22:40	01:23
2023	8	25	03:43	06:05	13:11	17:02	18:02	20:16	22:07	22:36	01:23
2023	8	26	03:46	06:07	13:11	17:01	18:00	20:13	22:04	22:33	01:23
2023	8	27	03:49	06:09	13:11	16:59	17:58	20:11	22:01	22:29	01:23
2023	8	28	03:52	06:11	13:10	16:58	17:57	20:09	21:58	22:26	01:10
2023	8	29	03:55	06:12	13:10	16:57	17:55	20:06	21:55	22:22	01:10
2023	8	30	03:58	06:14	13:10	16:55	17:53	20:04	21:52	22:19	01:10
2023	8	31	04:01	06:16	13:09	16:54	17:51	20:02	21:49	22:16	01:09
2023	9	1	04:04	06:18	13:09	16:52	17:49	19:59	21:46	22:12	01:09
2023	9	2	04:06	06:19	13:09	16:51	17:48	19:57	21:43	22:09	01:09
2023	9	3	04:09	06:21	13:08	16:49	17:46	19:55	21:40	22:06	01:08
2023	9	4	04:12	06:23	13:08	16:48	17:44	19:52	21:37	22:02	01:08
2023	9	5	04:14	06:24	13:08	16:46	17:42	19:50	21:34	21:59	01:08

2023	9	6	04:17	06:26	13:07	16:45	17:40	19:47	21:31	21:56	01:07
2023	9	7	04:19	06:28	13:07	16:43	17:38	19:45	21:28	21:53	01:07
2023	9	8	04:22	06:30	13:07	16:42	17:36	19:43	21:25	21:49	01:07
2023	9	9	04:24	06:31	13:06	16:40	17:34	19:40	21:22	21:46	01:06
2023	9	10	04:27	06:33	13:06	16:38	17:32	19:38	21:19	21:43	01:06
2023	9	11	04:29	06:35	13:06	16:37	17:30	19:35	21:16	21:40	01:06
2023	9	12	04:32	06:37	13:05	16:35	17:28	19:33	21:13	21:37	01:05
2023	9	13	04:34	06:38	13:05	16:33	17:26	19:30	21:11	21:34	01:05
2023	9	14	04:36	06:40	13:05	16:32	17:24	19:28	21:08	21:31	01:05
2023	9	15	04:39	06:42	13:04	16:30	17:22	19:26	21:05	21:28	01:04
2023	9	16	04:41	06:44	13:04	16:28	17:20	19:23	21:02	21:25	01:04
2023	9	17	04:43	06:45	13:04	16:27	17:18	19:21	20:59	21:22	01:04
2023	9	18	04:45	06:47	13:03	16:25	17:16	19:18	20:57	21:19	01:03
2023	9	19	04:48	06:49	13:03	16:23	17:14	19:16	20:54	21:16	01:03
2023	9	20	04:50	06:51	13:02	16:22	17:12	19:13	20:51	21:13	01:02
2023	9	21	04:52	06:52	13:02	16:20	17:10	19:11	20:48	21:11	01:02
2023	9	22	04:54	06:54	13:02	16:18	17:08	19:08	20:46	21:08	01:02
2023	9	23	04:56	06:56	13:01	16:16	17:06	19:06	20:43	21:05	01:01
2023	9	24	04:58	06:58	13:01	16:15	17:04	19:03	20:40	21:02	01:01
2023	9	25	05:00	06:59	13:01	16:13	17:02	19:01	20:38	20:59	01:01
2023	9	26	05:02	07:01	13:00	16:11	17:00	18:59	20:35	20:57	01:00
2023	9	27	05:04	07:03	13:00	16:09	16:58	18:56	20:33	20:54	01:00
2023	9	28	05:06	07:05	13:00	16:07	16:56	18:54	20:30	20:51	01:00
2023	9	29	05:08	07:06	12:59	16:06	16:53	18:51	20:27	20:49	00:59
2023	9	30	05:10	07:08	12:59	16:04	16:51	18:49	20:25	20:46	00:59
2023	10	1	05:12	07:10	12:59	16:02	16:49	18:46	20:22	20:43	00:59
2023	10	2	05:14	07:12	12:58	16:00	16:47	18:44	20:20	20:41	00:58
2023	10	3	05:16	07:13	12:58	15:58	16:45	18:42	20:17	20:38	00:58
2023	10	4	05:18	07:15	12:58	15:57	16:43	18:39	20:15	20:36	00:58
2023	10	5	05:20	07:17	12:57	15:55	16:41	18:37	20:12	20:33	00:57
2023	10	6	05:22	07:19	12:57	15:53	16:39	18:34	20:10	20:31	00:57
2023	10	7	05:24	07:21	12:57	15:51	16:36	18:32	20:08	20:28	00:57
2023	10	8	05:26	07:22	12:57	15:49	16:34	18:30	20:05	20:26	00:57
2023	10	9	05:28	07:24	12:56	15:48	16:32	18:27	20:03	20:23	00:56
2023	10	10	05:30	07:26	12:56	15:46	16:30	18:25	20:00	20:21	00:56
2023	10	11	05:32	07:28	12:56	15:44	16:28	18:23	19:58	20:19	00:56
2023	10	12	05:33	07:30	12:55	15:42	16:26	18:20	19:56	20:16	00:55
2023	10	13	05:35	07:32	12:55	15:41	16:24	18:18	19:54	20:14	00:55
2023	10	14	05:37	07:33	12:55	15:39	16:22	18:16	19:51	20:12	00:55
2023	10	15	05:39	07:35	12:55	15:37	16:20	18:13	19:49	20:09	00:55
2023	10	16	05:41	07:37	12:55	15:35	16:18	18:11	19:47	20:07	00:55
2023	10	17	05:43	07:39	12:54	15:33	16:16	18:09	19:45	20:05	00:54
2023	10	18	05:44	07:41	12:54	15:32	16:14	18:07	19:43	20:03	00:54
2023	10	19	05:46	07:43	12:54	15:30	16:11	18:04	19:40	20:01	00:54
2023	10	20	05:48	07:45	12:54	15:28	16:09	18:02	19:38	19:58	00:54
2023	10	21	05:50	07:46	12:54	15:27	16:07	18:00	19:36	19:56	00:54
2023	10	22	05:51	07:48	12:53	15:25	16:05	17:58	19:34	19:54	00:53
2023	10	23	05:53	07:50	12:53	15:23	16:03	17:56	19:32	19:52	00:53
2023	10	24	05:55	07:52	12:53	15:21	16:01	17:53	19:30	19:50	00:53
2023	10	25	05:57	07:54	12:53	15:20	16:00	17:51	19:28	19:48	00:53
2023	10	26	05:58	07:56	12:53	15:18	15:58	17:49	19:26	19:46	00:53
2023	10	27	06:00	07:58	12:53	15:17	15:56	17:47	19:24	19:45	00:53
2023	10	28	06:02	08:00	12:53	15:15	15:54	17:45	19:23	19:43	00:53
2023	10	29	05:03	07:02	11:53	14:13	14:52	16:43	18:21	18:41	23:53
2023	10	30	05:05	07:03	11:53	14:12	14:50	16:41	18:19	18:39	23:53
2023	10	31	05:07	07:05	11:53	14:10	14:48	16:39	18:17	18:37	23:53
2023	11	1	05:09	07:07	11:53	14:09	14:46	16:37	18:15	18:36	23:53
2023	11	2	05:10	07:09	11:52	14:07	14:45	16:35	18:14	18:34	23:52
2023	11	3	05:12	07:11	11:52	14:06	14:43	16:33	18:12	18:32	23:52
2023	11	4	05:14	07:13	11:52	14:04	14:41	16:31	18:10	18:31	23:52
2023	11	5	05:15	07:15	11:52	14:03	14:39	16:29	18:09	18:29	23:52
2023	11	6	05:17	07:17	11:53	14:01	14:38	16:27	18:07	18:27	23:53
2023	11	7	05:18	07:19	11:53	14:00	14:36	16:26	18:06	18:26	23:53
2023	11	8	05:20	07:21	11:53	13:59	14:34	16:24	18:04	18:24	23:53

2023	11	9	05:22	07:23	11:53	13:57	14:33	16:22	18:03	18:23	23:53
2023	11	10	05:23	07:24	11:53	13:56	14:31	16:20	18:01	18:22	23:53
2023	11	11	05:25	07:26	11:53	13:55	14:29	16:19	18:00	18:20	23:53
2023	11	12	05:26	07:28	11:53	13:54	14:28	16:17	17:59	18:19	23:53
2023	11	13	05:28	07:30	11:53	13:52	14:26	16:16	17:57	18:18	23:53
2023	11	14	05:29	07:32	11:53	13:51	14:25	16:14	17:56	18:16	23:53
2023	11	15	05:31	07:34	11:53	13:50	14:24	16:12	17:55	18:15	23:53
2023	11	16	05:33	07:36	11:54	13:49	14:22	16:11	17:54	18:14	23:54
2023	11	17	05:34	07:38	11:54	13:48	14:21	16:10	17:53	18:13	23:54
2023	11	18	05:35	07:39	11:54	13:47	14:20	16:08	17:51	18:12	23:54
2023	11	19	05:37	07:41	11:54	13:46	14:18	16:07	17:50	18:11	23:54
2023	11	20	05:38	07:43	11:54	13:45	14:17	16:05	17:49	18:10	23:54
2023	11	21	05:40	07:45	11:55	13:44	14:16	16:04	17:48	18:09	23:55
2023	11	22	05:41	07:46	11:55	13:43	14:15	16:03	17:47	18:08	23:55
2023	11	23	05:43	07:48	11:55	13:42	14:14	16:02	17:47	18:07	23:55
2023	11	24	05:44	07:50	11:56	13:41	14:13	16:01	17:46	18:06	23:56
2023	11	25	05:45	07:52	11:56	13:41	14:12	16:00	17:45	18:06	23:56
2023	11	26	05:47	07:53	11:56	13:40	14:11	15:59	17:44	18:05	23:56
2023	11	27	05:48	07:55	11:56	13:39	14:10	15:58	17:44	18:04	23:56
2023	11	28	05:49	07:57	11:57	13:39	14:09	15:57	17:43	18:04	23:57
2023	11	29	05:51	07:58	11:57	13:38	14:08	15:56	17:42	18:03	23:57
2023	11	30	05:52	08:00	11:57	13:38	14:08	15:55	17:42	18:03	23:57
2023	12	1	05:53	08:01	11:58	13:37	14:07	15:54	17:41	18:02	23:58
2023	12	2	05:54	08:03	11:58	13:37	14:06	15:53	17:41	18:02	23:58
2023	12	3	05:55	08:04	11:59	13:36	14:06	15:53	17:40	18:01	23:59
2023	12	4	05:57	08:06	11:59	13:36	14:05	15:52	17:40	18:01	23:59
2023	12	5	05:58	08:07	11:59	13:35	14:05	15:52	17:40	18:01	23:59
2023	12	6	05:59	08:08	12:00	13:35	14:04	15:51	17:40	18:00	00:00
2023	12	7	06:00	08:10	12:00	13:35	14:04	15:51	17:39	18:00	00:00
2023	12	8	06:01	08:11	12:01	13:35	14:04	15:50	17:39	18:00	00:01
2023	12	9	06:02	08:12	12:01	13:35	14:03	15:50	17:39	18:00	00:01
2023	12	10	06:03	08:13	12:02	13:35	14:03	15:50	17:39	18:00	00:02
2023	12	11	06:04	08:14	12:02	13:35	14:03	15:50	17:39	18:00	00:02
2023	12	12	06:05	08:15	12:02	13:35	14:03	15:49	17:39	18:00	00:02
2023	12	13	06:06	08:16	12:03	13:35	14:03	15:49	17:39	18:00	00:03
2023	12	14	06:06	08:17	12:03	13:35	14:03	15:49	17:39	18:00	00:03
2023	12	15	06:07	08:18	12:04	13:35	14:03	15:49	17:39	18:00	00:04
2023	12	16	06:08	08:19	12:04	13:35	14:03	15:50	17:40	18:01	00:04
2023	12	17	06:09	08:20	12:05	13:36	14:04	15:50	17:40	18:01	00:05
2023	12	18	06:09	08:21	12:05	13:36	14:04	15:50	17:40	18:01	00:05
2023	12	19	06:10	08:21	12:06	13:36	14:04	15:50	17:41	18:02	00:06
2023	12	20	06:11	08:22	12:06	13:37	14:05	15:51	17:41	18:02	00:06
2023	12	21	06:11	08:23	12:07	13:37	14:05	15:51	17:41	18:03	00:07
2023	12	22	06:12	08:23	12:07	13:38	14:05	15:52	17:42	18:03	00:07
2023	12	23	06:12	08:24	12:08	13:38	14:06	15:52	17:42	18:04	00:08
2023	12	24	06:13	08:24	12:08	13:39	14:07	15:53	17:43	18:04	00:08
2023	12	25	06:13	08:24	12:09	13:39	14:07	15:53	17:44	18:05	00:09
2023	12	26	06:13	08:25	12:09	13:40	14:08	15:54	17:44	18:05	00:09
2023	12	27	06:14	08:25	12:10	13:41	14:09	15:55	17:45	18:06	00:10
2023	12	28	06:14	08:25	12:10	13:42	14:10	15:56	17:46	18:07	00:10
2023	12	29	06:14	08:25	12:11	13:42	14:11	15:57	17:47	18:08	00:23
2023	12	30	06:14	08:25	12:11	13:43	14:11	15:58	17:47	18:09	00:23
2023	12	31	06:14	08:25	12:12	13:44	14:12	15:59	17:48	18:09	00:00