Problem 17

Five clocks are being tested in a laboratory. Exactly at noon, as determined by the WWV time signal, on successive days of a week the clocks read as in the following table. Rank the five clocks according to their relative value as good timekeepers, best to worst. Justify your choice.

Clock	Sun.	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.
A	12:36:40	12:36:56	12:37:12	12:37:27	12:37:44	12:37:59	12:38:14
B	11:59:59	12:00:02	11:59:57	12:00:07	12:00:02	11:59:56	12:00:03
C	15:50:45	15:51:43	15:52:41	15:53:39	15:54:37	15:55:35	15:56:33
D	12:03:59	12:02:52	12:01:45	12:00:38	11:59:31	11:58:24	11:57:17
E	12:03:59	12:02:49	12:01:54	12:01:52	12:01:32	12:01:22	12:01:12

Solution

Write down how much each clock changes from day to day.

	Sun to Mon	Mon to Tue	Tue to Wed	Wed to Thu	Thu to Fri	Fri to Sat
Clock A :	+0:16	+0:16	+0:15	+0:17	+0:15	+0:15
Clock B :	+0:03	−0:05	+0:10	−0:05	−0:06	+0:07
Clock C :	+0:58	+0:58	+0:58	+0:58	+0:58	+0:58
Clock D :	−1:07	−1:07	−1:07	−1:07	−1:07	−1:07
Clock E :	−1:10	−0:55	−0:02	−0:20	−0:10	−0:10

The best clocks to use for keeping time are the ones that are most predictable. Clocks C and D are the best, and Clock E is the worst.

<div align="center">C, D, A, B, E</div>