
Problem of the Week

Solution Ten

My clock chimes whenever the hands form a 180 degree angle. Between noon today and noon tomorrow, how many times does the clock chime?

SOLUTION: The clock chimes twenty-two times.

The knee-jerk answer is twenty-four. At first glance, it seems that the hands form a 180 degree angle at one time in each hour: for example, at roughly 1:35, 2:40, 3:45, and so on. But this overlooks that 6:00 does double-duty, since it is the time between 5:00 and 6:00 (inclusive) and 6:00 and 7:00 (inclusive) at which the hands form a straight angle. That is why the answer is only twenty-two, and not twenty-four.