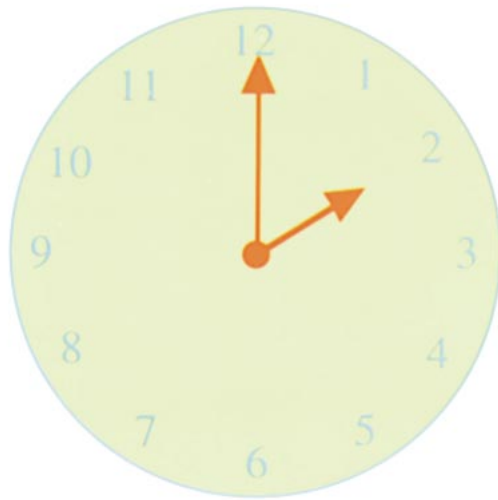


The Careless Watchmaker

Problem-of-the-Week

The Problem

One day, while repairing a watch, a watchmaker removed the hour and minute hands to fix the watch. But, she put the hands back on the opposite spindles. When the customer picked up the watch, the time correctly showed 2:00. When is the next time the watch will show the correct time?



Strategies and Hints

1. What does the minute hand do during the first hour? What does the hour hand do? What time does the watch show at 3:00? Will the watch show the correct time at any point during the first hour? Try making a chart to show the actual time and the time shown by the watch.
2. Let D be a distance the minute hand moves on the watch and d be the distance the hour hand moves during the same time. Write an equation relating D and d .
3. Write a second equation relating D and d on a correct watch. What does the hour hand do while the minute hand moves from one number to the next (a distance $D + 5$)?