## **CLOCK WATCHING**

Can you see what is wrong with this clock?



Actually there is nothing really wrong with the clock itself – it is the way in which we are looking at it. Can you see what time it *really* is?

You probably noticed that although the minute hand is nearly two-thirds of the way around, the hour hand is less than half way from "12 o'clock" to "1 o'clock". How can this be?

The clock has been rotated, so what looks like "12 o'clock" is not really 12 o'clock at all. Can you decide what time it *really* is? Perhaps you cannot be absolutely sure but can narrow it down to a few possibilities.

Do you think it could be 10:28? Or maybe 9:23? Did you rule out or include other possibilities? Why?

What about these clocks? Can you work out the correct times? How sure can you be about each one? Why?







Oh, maybe I reflected some of these photographs – I cannot remember! Can you tell?

I thought of this problem when my wife bought this clock and we wanted to fix it to the wall. My first thought was: "We need to be very careful that we fix it in the right orientation, otherwise it will not be able to keep the right time". But then I thought a bit more and said: "Actually it will not matter – the clock will work just as well when rotated by any multiple of 30°". (Of course, in each case it would need setting to the correct time first.) Which of my two thoughts was correct?

## Colin Foster

