Problem of the Week
Problem A and Solution
Time After Time

Problem

Assume that the current time matches the time shown on the clock, and the current time is in the morning.

The school day ends in 5 hours and 6 minutes from the time shown on the clock.

(a) How many more minutes are left until the end of the school day?

(b) What time does school end?

(c) School started at 8:55 a.m. How much time has passed, in hours and minutes, between the start of the school day and the time shown on the clock?

Solution

(a) Since each hour has 60 minutes, then 5 hours have a total of $5 \times 60 = 300$ minutes. So the total number of minutes left until the end of the school day is $300 + 6 = 306$ minutes.

(b) The time showing on the clock is 10:09 a.m. We will add 5 hours and 6 minutes to this time. Two hours after 10:09 a.m. it will be 12:09 p.m. Three hours after that it will be 3:09 p.m. Six minutes later it will be 3:15 p.m. Thus, school ends at 3:15 p.m.

(c) We start at 8:55 a.m. One hour after that it will be 9:55 a.m. Five minutes after that it will be 10:00 a.m. Nine minutes after that it will be 10:09 a.m. Thus, a total of 1 hour and $5 + 9 = 14$ minutes have passed between the start of the school day and the time shown on the clock.