



## Problem of the Week

### Problem B

### Time IS Money

#### Problem

Sky had a job at a local camp during the summer holidays.

- a) One week, she worked the following hours:

Monday	8:45 - 11:30, and 12:15 - 17:00
Tuesday	10:20 - 11:30, and 12:15 - 17:50
Wednesday	12:30 - 20:00
Thursday	9:00 - 12:00, and 12:45 - 17:00
Friday	7:15 - 11:00

How many hours did Sky work in total that week?

- b) The following week, Sky worked from Monday to Friday, 9 a.m. to 4 p.m. each day, with a 30-minute lunch break each day. She is not paid during her lunch break. Did she work more or less hours this week than the previous week?
- c) If Sky earned \$10.40 per hour during the first week of work, how much money did she earn in total that week? (You will need to convert measures in hours and minutes to decimal numbers of hours.)
- d) In between the first and second weeks, Sky's hourly rate of pay increased slightly. If she earned exactly the same amount of money in both weeks, what was her hourly rate of pay in the second week?

#### Solution

- a) The total hours Sky worked each day are:

Monday	8:45 - 11:30, and 12:15 - 17:00, giving $2\text{hr } 45\text{min} + 4\text{hr } 45\text{min} = 7\text{hr } 30\text{min}$ ;
Tuesday	10:20 - 11:30, and 12:15 - 17:50, giving $1\text{hr } 10\text{min} + 5\text{hr } 35\text{min} = 6\text{hr } 45\text{min}$ ;
Wednesday	12:30 - 20:00, giving $7\text{hr } 30\text{min}$ ;
Thursday	9:00 - 12:00, and 12:45 - 17:00, giving $3\text{hr} + 4\text{hr } 15\text{min} = 7\text{hr } 15\text{min}$ ;
Friday	7:15 - 11:00, giving $3\text{hr } 45\text{min}$ .

Thus Sky worked a total of  $7\text{hr } 30\text{min} + 6\text{hr } 45\text{min} + 7\text{hr } 30\text{min} + 7\text{hr } 15\text{min} + 3\text{hr } 45\text{min} = 32\text{hr } 45\text{min}$ .

- b) The following week, Sky worked  $7\text{ hr} - 30\text{ min} = 6\text{hr } 30\text{min}$  each day. Thus she worked a total of  $6\text{hr } 30\text{min} \times 5 = 32\text{hr } 30\text{min}$ , which is 15 min less than the previous week.





- c) Since  $32\text{hr } 45\text{min} = 32.75\text{ hr}$ , Sky earned a total of  $\$10.40 \times 32.75 = \$340.60$  during the first week.
- d) Since she earned the same during the second week for only  $32\text{hr } 30\text{min}$  hr, or  $32.5\text{ hr}$ , her new hourly rate was  $\$340.60 \div 32.5 = \$10.48$  per hour.

