



## Problem of the Week

### Problem A and Solution

#### Ski Time

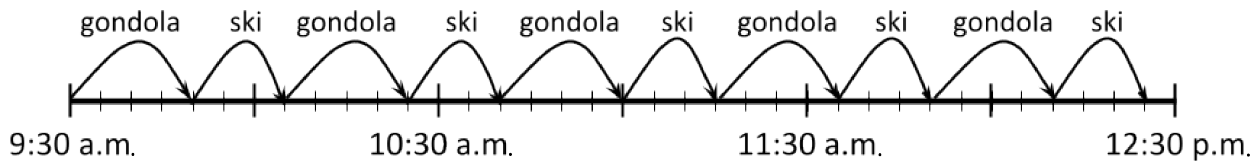
#### Problem

Graham and Olga are going skiing. A gondola takes them from the bottom of a mountain to the top, and then they ski back down. It takes them 20 minutes to ride the gondola to the top of the mountain, and 15 minutes to ski back down.

They begin their first gondola ride up the mountain at 9:30 a.m. and plan to meet their parents at the bottom of the mountain at 12:30 p.m. for lunch. What is the maximum number of ski runs they can do before meeting their parents for lunch, assuming they don't have to wait in line for the gondola?

#### Solution

One way to solve this problem would be to use a timeline divided into 5 minute intervals to keep track of how long Graham and Olga have been skiing.



The timeline shows that the maximum number of ski runs that Graham and Olga can do between 9:30 a.m. and 12:30 p.m. is five.

Another way we could solve this problem is to calculate the number of minutes between the start time and lunch time. There are 3 hours between 9:30 a.m. and 12:30 p.m. Since each hour is 60 minutes, this is a total of  $60 \times 3 = 180$  minutes. The total time it takes to ride the gondola and then ski back down the mountain once is  $20 + 15 = 35$  minutes. Now we could use skip counting to figure out how many ski runs Graham and Olga can do within 180 minutes.

35, 70, 105, 140, 175, 210

Therefore, the maximum number of ski runs that Graham and Olga can do within 180 minutes is five.