

## Identifying Proportional & Non-Proportional Relationships in Tables

Examine the situations and decide whether two quantities are proportional to each other by checking for a constant multiple between measures of  $x$  and measures of  $y$ .

### Example 1

**Example 1: Which Team Will Win the Race?**

You have decided to run in a long distance race. There are two teams that you can join. Team A runs at a constant rate of 2.5 miles per hour. Team B runs 4 miles the first hour and then 2 miles per hour after that.

**Task:** Create a table for each team showing the distances that would be run for times of 1, 2, 3, 4, 5, and 6 hours. Using your tables, answer the questions that follow:

Team A	
Time (hrs)	Distance (miles)
1	2.5
2	5
3	7.5
4	10
5	12.5
6	15

Team B	
Time (hrs)	Distance (miles)
1	4
2	6
3	8
4	10
5	12
6	14

- 1) For which team is distance proportional to time? Explain.
- 2) Explain how you know if either team is not proportional to time.
- 3) If the race were 35 miles long, which team would win? Explain.
- 4) If the race were 4.5 miles long, which team would win? Explain.
- 5) For what length race would it be better to be on Team B than Team A?
- 6) Will there always be a winning team? Explain.