



# N-Q Bus and Car

## Task

Julio went to Germany to watch an international soccer tournament. He first watched Argentina play Germany in Berlin, Germany. The next day Julio went to Frankfurt, Germany to watch Brazil play France.

To get from Berlin to Frankfurt for this second game, Julio took a bus from Berlin to Erfurt (303 km); then he rented a car and drove from Erfurt to Frankfurt (254 km). Julio drove on German highways, called autobahns, which have no general speed limit for passenger vehicles; however, buses have an enforced speed limit of 80 km/hr.

- If the bus drove 80 km/hr from Berlin to Erfurt and Julio drove 130 km/hr from Erfurt to Frankfurt, what was the total amount of time it took Julio to travel from Berlin to Frankfurt (not counting the transfer time between the bus and the car)? Give your answer to a reasonable level of accuracy.
- What fraction of the time during the trip did Julio spend on the bus? In the car?
- What was Julio's average speed for the entire trip?
- If Julio had rented a car and driven from Berlin to Erfurt at 130 km/hr and then taken a bus from Erfurt to Frankfurt at 80 km/hr, would he have arrived sooner? Explain your answer.
- How long would Julio's trip have taken if he had ridden the bus the entire way?



N-Q Bus and Car

Typeset May 4, 2016 at 21:45:45. Licensed by Illustrative Mathematics under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License .