

# MATH PROBLEM OF THE MONTH (November)

An airplane is supposed to cover a distance of 2900 km. However, after travelling the first 1700 km, it had to land and wait on the ground for 1 hour and 30 minutes. After it took off again, its average speed was 50 km/h less than before. The plane completed the entire trip 5 hours after departure. What was the original average speed of the plane?

## Solution

Let  $r$  equal the speed of the plane.

Then  $\frac{1700}{r} + \frac{1200}{r-50} + 1.5 = 5$ . This equation becomes  $0.035r^2 - 30.75r + 850 = 0$ , which has 2 solutions 850 and  $\overline{28.571428}$ . The only realistic solution is 850 km/h.