



# LPR Cup

09.s01.e03



*Stupid planes!  
Get out of my airspace!  
Homer Simpson*

## Two planes

Two supersonic planes are moving along perpendicular straight-line trajectories towards the point of their intersection. At a distance of  $r = 40$  km from the point where the plane paths intersect, there is a sound sensor. The sensor detected sound signals from both planes simultaneously, and after a time  $t = 15$  s the planes collided. The sound speed is  $c = 330$  m/s, and the speed of the first plane is  $v_1 = 370$  m/s.

Find the speed of the second plane  $v_2$ . (*10 points*)

Planes and sensors are located in the same surface.

First hint — 11.05.2020 14:00 (Moscow time)

Second hint — 13.05.2020 14:00 (Moscow time)

Final of the third round — 15.05.2020 22:00 (Moscow time)