

Captains' Fight 2

FPT 2018
9-10th February



1 Question

2 Solution

You have 2 minutes to solve the following question:

If we cover the wings of an Airbus A380 by one layer of ping-pong balls, what would be the total mass of balls ?

1 Question

2 Solution

One more slide for the solution !

- A standard ping-pong ball: radius of 20 *mm* and mass of 2.7 *g*.
- A ball covers a surface $S_{\text{ball}} = \pi \cdot r_{\text{ball}}^2 \simeq 10^{-3} \text{ m}^2$.
- The wings of an Airbus A380 have a surface $S_{\text{A380}} = 845 \text{ m}^2$.

$$M_{\text{balls}} \simeq \underbrace{\frac{845}{10^{-3}}}_{\text{number of balls}} \times \underbrace{2.7 \cdot 10^{-3}}_{\text{mass of a ball}}$$

$$\Rightarrow M_{\text{balls}} \simeq 10^3 \text{ kg}$$