

**Question #51382, Physics, Mechanics | Kinematics | Dynamics**

The sport with the fastest moving ball is jai alai, where measured speeds can be 296 km/h. If a professional jai alai player faces a ball at that speed and involuntarily blinks, he blacks out the scene for 100 ms. How far does the ball move during the blackout?

**Answer.**

$$d = Vt$$

$$\text{In our case: } V = 296 \frac{\text{km}}{\text{h}} = 296 * \frac{1000}{60*60} \frac{\text{m}}{\text{s}} \approx 82.22 \frac{\text{m}}{\text{s}};$$

$$t = 100 \text{ ms} = \frac{100}{1000} \text{ s} = 0.1 \text{ s}.$$

$$\text{So, } d = 82.22 * 0.1 = 8.222 \text{ m} \approx 822 \text{ cm}.$$

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