

### Answer on Question #67079-Physics-Mechanics-Relativity

When an aircraft is moving in a horizontal plan at a constant speed of 650 m/s and its turning circle has a radius of 80 km. What is the ratio of the centripetal force to the weight of the aircraft?

#### Solution

The ratio of the centripetal force to the weight of the aircraft is

$$\frac{\frac{mv^2}{r}}{mg} = \frac{v^2}{gr} = \frac{650^2}{9.8 \cdot 80000} = 0.54.$$

**Answer: 0.54.**

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