Assignment 1

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Download all latex codes from

https://github.com/tanmaygoyal258/EE3900−Linear
−Systems−and−Signal−processing/blob/main/
Assignment1/main.tex

1 PROBLEM

(Vectors 2.17a) Give the magnitude and direction of the net force acting on a stone of mass 0.1 kg, just after it is dropped from the window of a stationary train.

2 SOLUTION

Since the train is stationary, there would be no sideways force acting on the stone. Neglecting air resistance, the only force acting on the stone would be that of gravity, in the downward direction. Let the force of gravity be given by F. Then,

$$F = mg = 0.1kg * 9.8m/s^2 = 9.8N \qquad (2.0.1)$$

Thus, the net force is 9.8N in the downward direction.