## Answer on question \#67447, Physics / Other

Question A train is moving with velocity $54 \mathrm{~km} / \mathrm{h}$ is accelerated so that it's velocity becomes $72 \mathrm{~km} / \mathrm{h}$ in 15 seconds. Find the acceleration of the train.

Solution The acceleration is

$$
a=\frac{\Delta v}{\Delta t}=\frac{72 \mathrm{~km} / \mathrm{h}-54 \mathrm{~km} / \mathrm{h}}{15 \mathrm{~s}}=\frac{18 \mathrm{~km} / \mathrm{h}}{15 \mathrm{~s}}=\frac{5 \mathrm{~m} / \mathrm{s}}{15 \mathrm{~s}}=\frac{1}{3} \mathrm{~m} / \mathrm{s}^{2} \approx 0.33 \mathrm{~m} / \mathrm{s}^{2}
$$

