

On Mathematics as a Language

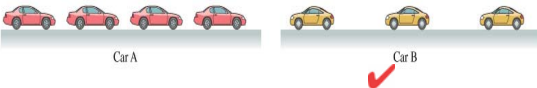
When we subtract a vector from itself, we get zero.
There are at least two ways to write this:

1. $\vec{A} - \vec{A} = 0$
 2. $\vec{A} - \vec{A} = \vec{0}$
- Which form is most correct?
- A. Form 1
 - B. Form 2
 - C. They are equally correct

Which car is going faster, A or B? Assume there are equal intervals of time between the frames of both movies.



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B is going faster

Three motion diagrams are shown. Which is a dust particle settling to the floor at constant speed, which is a ball dropped from the roof of a building, and which is a descending rocket slowing to make a soft landing on Mars?

- | | | | |
|---------|---------|---------|--|
| (a) 1 ● | (b) 1 ● | (c) 1 ● | A. (a) is dust, (b) is ball, (c) is rocket |
| 2 ● | | | |
| 3 ● | 2 ● | | B. (a) is ball, (b) is dust, (c) is rocket |
| | | 2 ● | |
| 4 ● | 3 ● | | C. (a) is rocket, (b) is dust, (c) is ball |
| | | 3 ● | |
| 5 ● | 4 ● | | D. (a) is rocket, (b) is ball, (c) is dust |
| | | 4 ● | |
| | 5 ● | | E. (a) is ball, (b) is rocket, (c) is dust |
| | | 5 ● | |
| 6 ● | 6 ● | 6 ● | |

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| | | 5 ● | |
| 6 ● | 6 ● | 6 ● | |