## Cars—Change of Velocity ${ }^{9}$

The eight situations below show before and after "snapshots" of a car's velocity. Rank these situations, in terms of the change in velocity, from most positive to most negative. All cars have the same mass and they traveled the same distance. Negative numbers, if any, rank lower than positive ones $(-20 \mathrm{~m} / \mathrm{s}<-10$ $\mathrm{m} / \mathrm{s}<0<5$ ).


Most
Positive 1 $\qquad$ 2 $\qquad$
$\qquad$ 4 $\qquad$ 5 $\qquad$ 6 $\qquad$ 7 $\qquad$ 8 $\qquad$ Most
-_-
  Negative

Or, the change in velocity is the same (but not zero) for all of these. $\qquad$

Or, the change in velocity is zero for all of these. $\qquad$

Or, it is not possible to determine the change in velocity for all of these. $\qquad$

Please carefully explain your reasoning.

How sure were you of your ranking? (circle one)
Basically Guessed
1
12
3

## 4

5

Sure

6
$7 \quad 8$
Very Sure
910

[^0]
[^0]:    9 J. Cole, D. Maloney, C. Hieggelke

