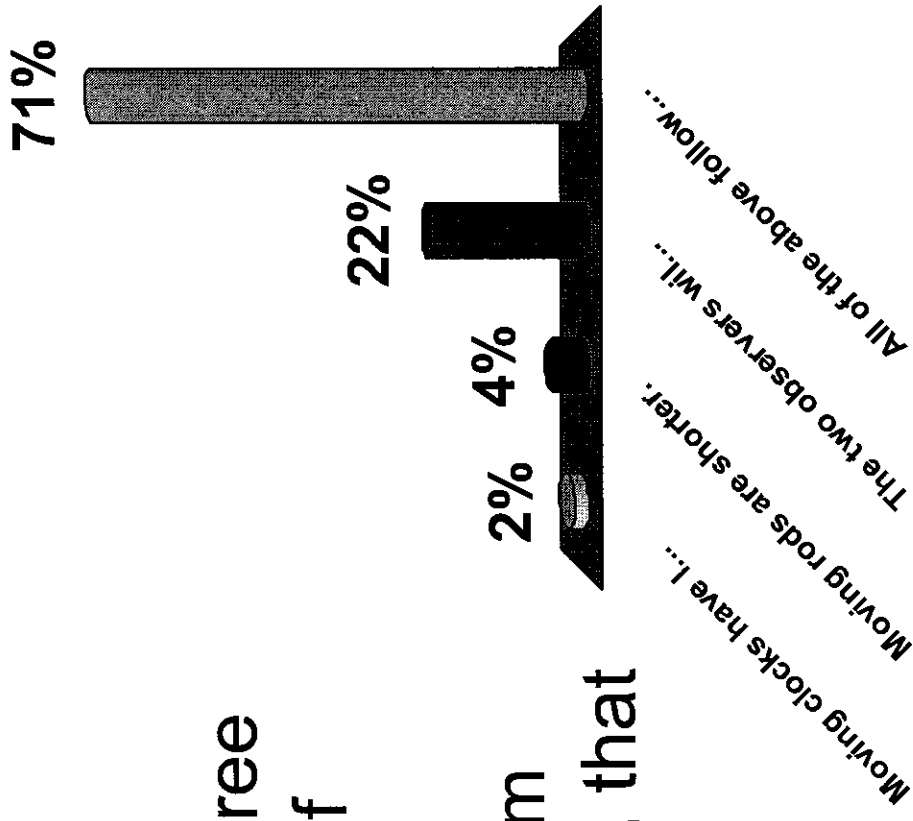


If the speed of light is the same in two inertial frames, then it follows that

1. Moving clocks have larger tick intervals.
2. Moving rods are shorter.
3. The two observers will agree on the magnitude, $|V|$, of their relative velocity.
4. All of the above follow from the 2nd postulate; namely, that $c = \text{constant}$, the same in every inertial frame.



The correct answer is #4: Each of the completions, 1, 2, & 3, is true.

- Once c is known to have the same fixed value in every inertial frame, simultaneous events in one I-frame can not be simultaneous in another; including clock ticks.
- But the measurement of a length requires the determination of its two end points **at the same time**. So that a moving rod has a different length than its length in its own rest frame (which turns out to be shorter).
- But the time dilation and length contraction combine to yield the same relative speed, V , so that #1, #2, & #3 are all true.