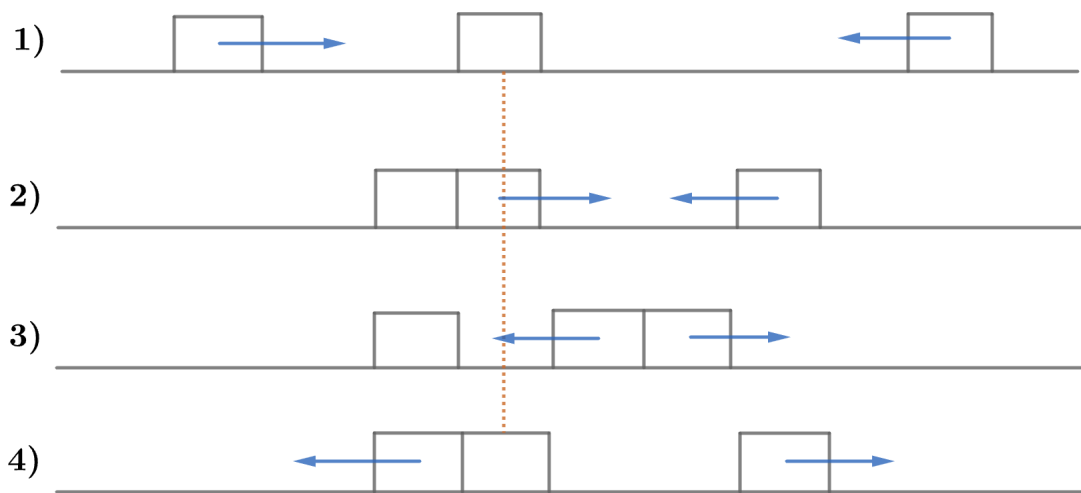


## 2009 F=ma Exam: Problem 2

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Recall that in an elastic collision between identical masses, if a moving mass hits a mass at rest then the velocity of the moving mass is transferred to the second mass. If two masses move toward each other with the same speed, then their directions flip after the collision.



Initially, the left and right blocks move toward the center block (1). The left block hits first and transfers its velocity to the center block (2). The center and right block move toward each other and their directions flip after they collide (3). The center block hits the left block and transfers its velocity (4). The left and right blocks continue to move away from each other while the center block returns to its initial position. Thus, the answer is D.