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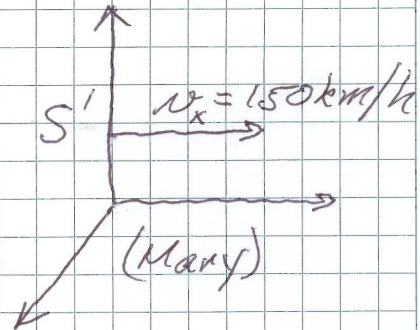
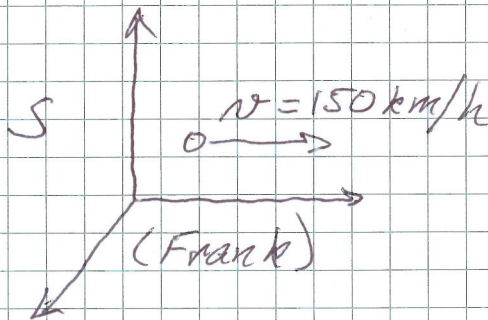
Quiz #1 Solutions

PHY3305

Fall 109

1) The laws of mechanics are the same in all inertial reference frames.

2)



a) The ball is moving in frame S to the right. Frank also sees Mary moving to the right.

Mary observes Frank moving to the left and throwing a ball toward her.

b) $v' =$ velocity of the ball in S'
 $v'_x =$ velocity of Frank in $S' = -150 \text{ km/h}$

Galilean Relativity:

$$v' = v + v'_x = 150 \text{ km/h} - 150 \text{ km/h}$$

$$v' = 0$$