

70. The velocity of Larry is v_1 and that of Curly is v_2 . Also, we denote the length of the corridor by L . Now, Larry's time of passage is $t_1 = 150$ s (which must equal L/v_1), and Curly's time of passage is $t_2 = 70$ s (which must equal L/v_2). The time Moe takes is therefore

$$t = \frac{L}{v_1 + v_2} = \frac{1}{v_1/L + v_2/L} = \frac{1}{\frac{1}{150} + \frac{1}{70}} = 48 \text{ s} .$$