Data Table

Before Collision				After Collision	
Car 1		Car 2		Car 1 + Car 2	
m_1	V_{01}	m_2	V_{02}	V_f	$m_1 + m_2$
5000 kg	5.2 m/s	8000 kg	0 m/s	?	5000+ 8000 = 13000 kg
momentum					
$m_1 \times V_{o1}$ = 5000 x 5.2 = 26000		$m_2 \times V_{o2}$ = 8000 x 0 = 0		$(m_2 + m_1) \times V_f$ 13000 x V_f	
Conservation of momentum (Before = After)					

$$26000 + 0 = 13000 \times V_f$$

$$26000 = 13000 \times V_f$$

$$2 \text{ m/s [Forwards]} = V_f$$