
PHYS 1110 Worksheet: Collisions

1. Find the final velocities of the particles in the following 1-D totally inelastic collisions.

m_1	v_{1i}	m_2	v_{2i}	sketch	v_f
m	$+v$	m	0		
m	$+v$	m	$-v$		
m	$+2v$	m	$+v$		
$2m$	$+v$	m	$-2v$		
m	$+v$	0	0		
0	$+v$	m	0		

2. Find the final velocities of the particles in the following 1-D elastic collisions.

m_1	v_{1i}	m_2	v_{2i}	v_{1f}	v_{2f}
m	$+v$	m	0		
m	$+v$	m	$-v$		
m	$+2v$	m	$+v$		
$2m$	$+v$	m	$-2v$		
$3m$	$+v$	m	$-v$		
m	$+v$	0	0		
0	$+v$	m	0		