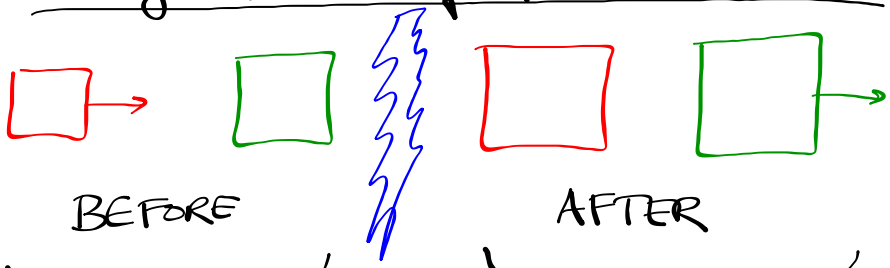
Solving conservation of Momentum Problems:



all of the momentum is in object 1 — MOMENTUM TRANSFERRED — all of the momentum in in object 2

object 1
$m = 500\,kg$
$v = 8\,\frac{m}{s}$

object 2
$m = 200\,kg$
$v = 0\,\frac{m}{s}$

object 1
$m = 500\,kg$
$v = 0\,\frac{m}{s}$

object 2
$m = 200\,kg$
$v = ?$

A

1a $m = 500$, $v = 8$

1b p

2 $p = m \cdot v$

3 $p = 500 \cdot 8$

4 $p = 4000\,\frac{kg \cdot m}{s}$ (right)

5 check...

B $4000\,\frac{kg \cdot m}{s}$ (right)

C

1a $m = 200\,kg$, $p = 4000\,\frac{kg \cdot m}{s}$

1b v

2 $p = m \cdot v$

3 $4000 = 200 \cdot v$

4 $\frac{4000}{200} = \frac{200 \cdot v}{200}$

5 $v = 20\,\frac{m}{s}$ (ri
check...