$$v_{A1} \qquad v_{B1}$$

Homework H.4.P

$$v_{A2} \qquad\qquad\qquad v_{B2}$$

**Given:** Blocks A and B (having masses of m and M, respectively) are initially traveling in directions perpendicular to each other with speeds of v_{A1} and v_{B1}, respectively, as shown below in the figure. After impacting each other, A is traveling to the RIGHT with a speed of v_{A2}, and B travels with a speed of v_{B2} (the direction of motion for B after impact is not known). Consider all surfaces to be smooth.

Find: For this problem:
(a) Determine the mass M of block B;
(b) Determine the coefficient of restitution e for the impact of A and B.

A   B

v_{A1}

m M

$m = 3kg$

neters / sec $v_{A2} = 2\ meters\ /\ sec$
ers / sec

v_{B1}

HORIZONTAL PLANE
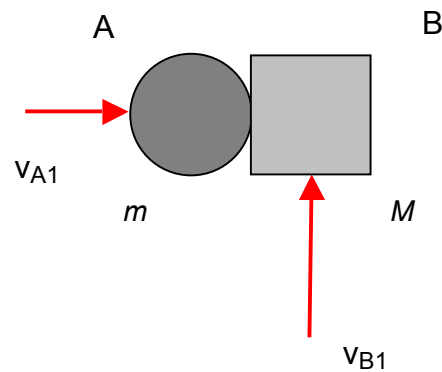
Use the following parameters in your analysis: $m = 3$ kg, $v_{A1} = 4$ m/s, $v_{B1} = 4$ m/s, $v_{A2} = 2$ m/s and $v_{B2} = 5$ m/s.