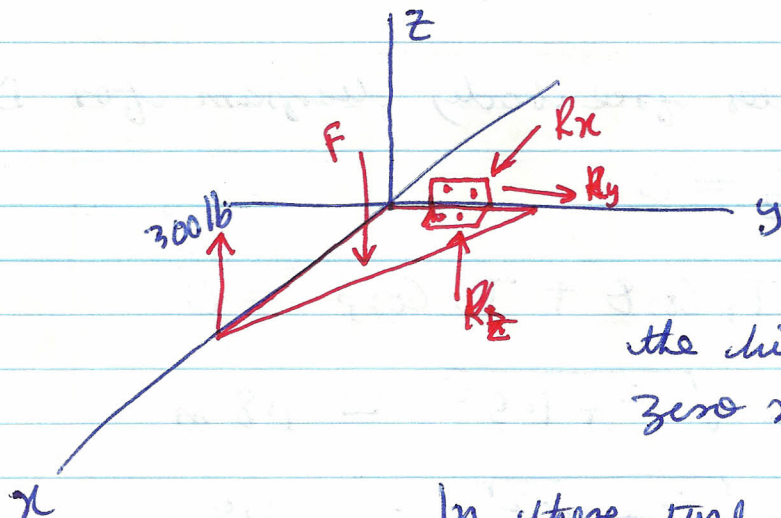5-75

the hinge will have
zero resistive moment

$\sum M_y = 0$

In these type problems, treat
the rope, cable etc as an
applied force at their point
and solve for it. Then use
the result in the
Equilibrium Equations.

$300(9) - F(3) = 0$

$F = 900$ lb

$\sum M_x = 0$

$900(2) - 3R_z = 0$

$R_z = 600$ lb

$\sum M_z = 0$

$R_x(3) = 0 \Rightarrow R_x = 0.$

$\sum F_y = 0 \Rightarrow R_y = 0.$

Note can also use $\sum F_z, \sum F_x, \ldots$
Students: Use vector formulation to confirm.