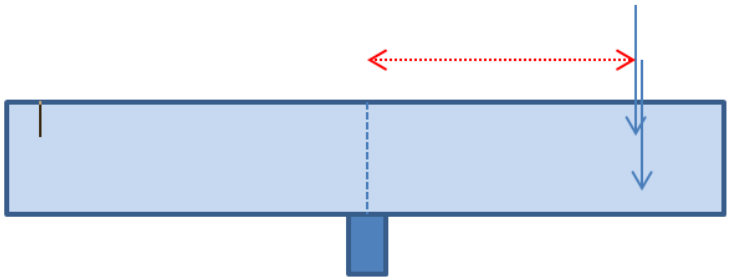
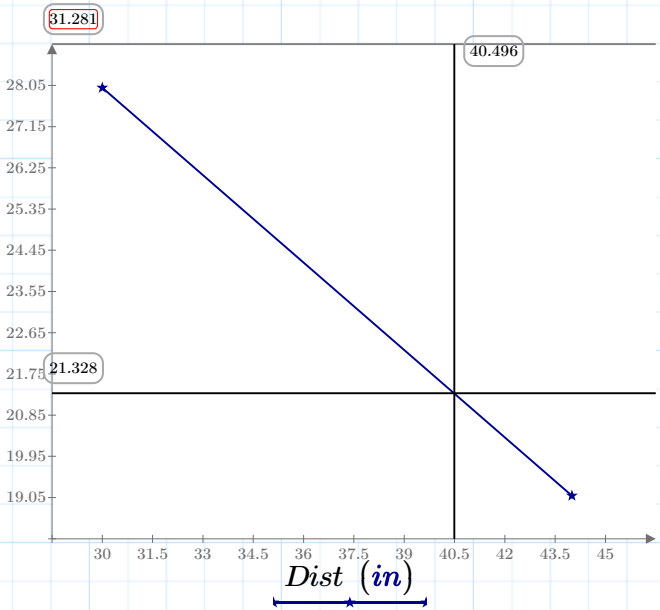
Jordan's Ramp Worksheet



How do we lower the ramp to climb on board?



$W_{bat} := 14\ lb$

$Dist := \begin{bmatrix} 30\ in \\ 44\ in \end{bmatrix} \qquad i := 0..2$

$V_{Moment} := Dist \cdot (2 \cdot W_{bat}) \qquad V_{Moment} = \begin{bmatrix} 840 \\ 1232 \end{bmatrix} lb \cdot in$

$V_{Force} := \frac{V_{Moment_0}}{Dist} = \begin{bmatrix} 28 \\ 19.091 \end{bmatrix} lb$

$C := \text{line}(Dist, V_{Force}) = \begin{bmatrix} 21.36\ kg \\ -11.364\ \frac{kg}{m} \end{bmatrix}$

$F_m(d) := C_0 + C_1 \cdot d$

$F_m(37\ in) = 23.545\ lb$

$C_1 = -0.636\ \frac{lb}{in}$