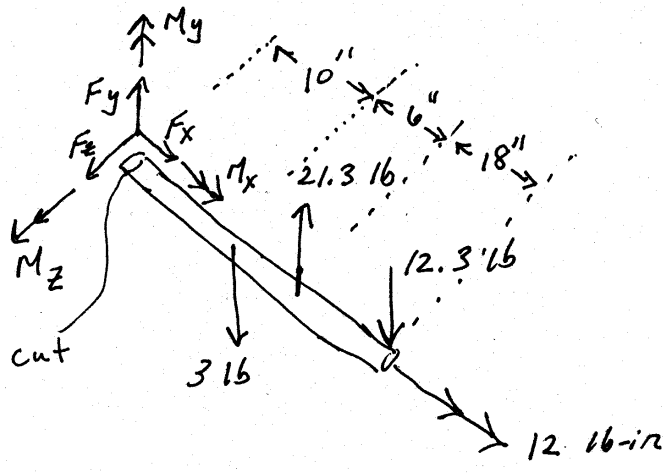


$\Sigma F_x = F_x = 0$, $\Sigma F_y = F_y - 3 + 21.3 - 12.3 = 0$

$\Rightarrow F_y = -6$ lb

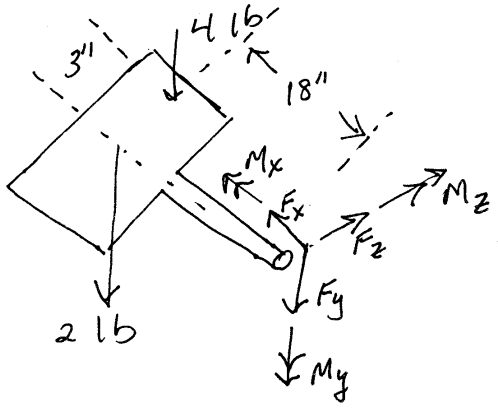
$\Sigma F_z = 0 \Rightarrow F_z = 0$

$\Sigma M|_{cut_x} = M_x + 12 = 0 \Rightarrow M_x = -12$ lb-in

$\Sigma M|_{cut_y} = M_y = 0 \Rightarrow M_y = 0$

$\Sigma M|_{cut_z} = M_z - 3(10) + 21.3(16) - 12.3(34) = 0$

$\Rightarrow M_z = 107.4$ lb-in



$\Sigma F_x = F_x = 0 \Rightarrow F_x = 0$; $\Sigma F_y = -F_y - 2 - 4 = 0$

$\Rightarrow F_y = -6$ lb

$\Sigma F_z = F_z = 0 \Rightarrow F_z = 0$

$\Sigma M|_{cut\ x} = -4(3) - M_x = 0 \Rightarrow M_x = -12$ lb-in

$\Sigma M|_{cut\ y} = -M_y = 0 \Rightarrow M_y = 0$

$\Sigma M|_{cut\ z} = -M_z + 2(18) + 4(18) = 0 \Rightarrow M_z = 108$ lb-in

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Values for internal loads agree when analyzing left half or right half. (Note 107.4 lb-in was found, because 21.333 was rounded to 21.3, etc.)

For this problem, $M_x = -12$ lb-in is a twisting moment

For this problem, $M_z = 108$ lb-in is a bending moment