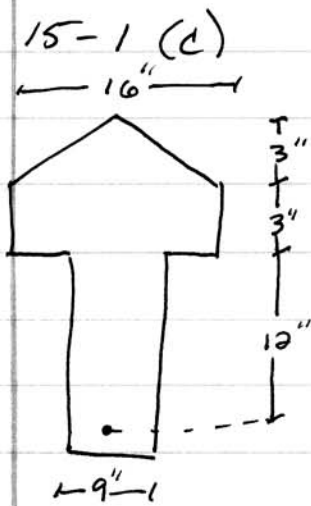


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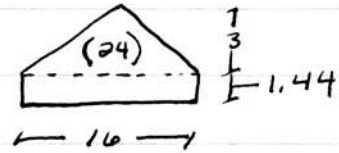
Given: $A_s = 2 \text{ in}^2$
 $f_y = 60 \text{ KSI}$
 $f'_c = 3 \text{ KSI}$

Find M_u

step 1: $A_c = \frac{A_s f_y}{0.85 f'_c}$ $A_c = \frac{2(60)}{0.85(3)} = 47.06$

Step 2: Find where A_c lies on shape

$47.06 - 24 = 23.06 \text{ in}^2$
 $16x = 23.06$ $x = 1.44$



step 3: Since shape is not rectangular do not use $d = \frac{a}{2}$ but rather find centroid of area

$\bar{y} = \frac{\sum Ad}{\sum A}$

I'll choose top as baseline
 d is distance fr. centroid of shape to baseline

$\frac{24(2) + 23.04(3.72)}{24 + 23.04} = 2.84 \text{ in. fr. top}$



step 4: $z = d - y$ $z = 18 - 2.84$ $z = 15.16 \text{ in}$

step 5: $M_u = \phi A_s f_y z$ $0.9(2)(60)15.16 = \frac{1637.28}{1636.8} \text{ KIN}$
 $= 136.4 \text{ KFT}$