



DELECTION OF A BEAM
 F= FORCE AT A GIVEN POINT
 L=LENGTH OF BEAM
 E= ELASTIC MODULUS
 I= MOMENT OF INERA OF THE PARTICULAR SECTION
 a= LENGTH FROM REACTION POINT TO FORCE
 y=DEFORMATION

$$6EI(2L^3 - 3aL^2 + a^3)=y$$

$$\frac{1825.31\#}{6*30000000PSI*10.4845"}(2*25.7141'^3 - 3*25.7141'*57.8547'^2 + 25.7141'^3)$$

$$.000000967200*(-207200")=y_c=0.200404" @ POINT D$$

$$6EI(2L^3 - 3aL^2 + a^3)=y$$

$$\frac{-1975.27\#}{6*30000000PSI*3.4379"}(2*57.8547'^3 - 3*25.7141'*57.8547'^2 + 25.7141'^3)$$

$$.00000294965*(146093.0")=y_c=0.430924" @ POINT C$$

$$\frac{Fy^3}{3EI}=y$$

$$\frac{1213.07\# * 25.7141'^3}{3*30000000PSI*9049"}=y_b=0.341787 @ POINT B$$

$$y_b+y_c+y_{total}$$

$$0.200404 - 0.430924 + 0.341787 = .111"$$