

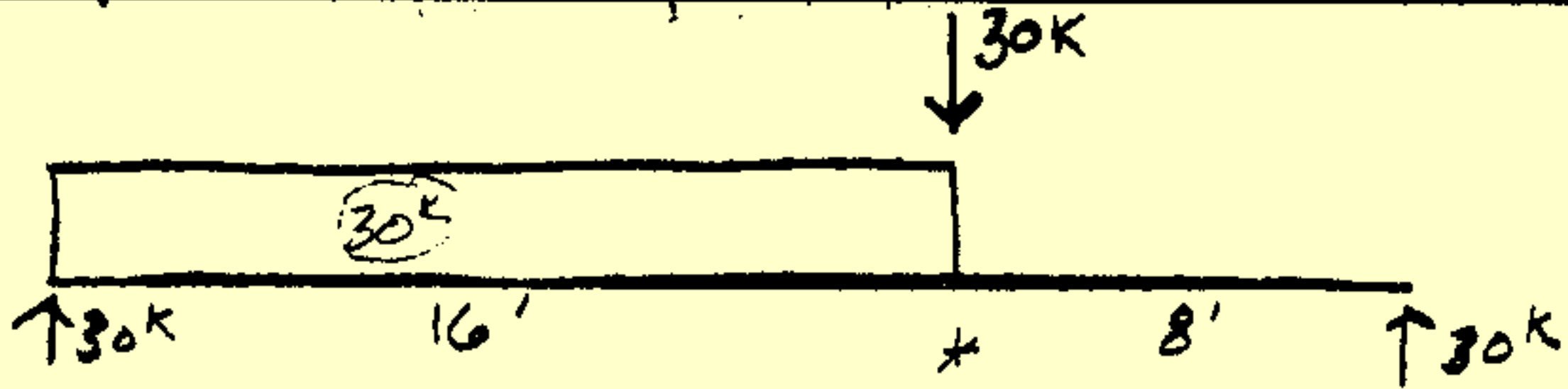
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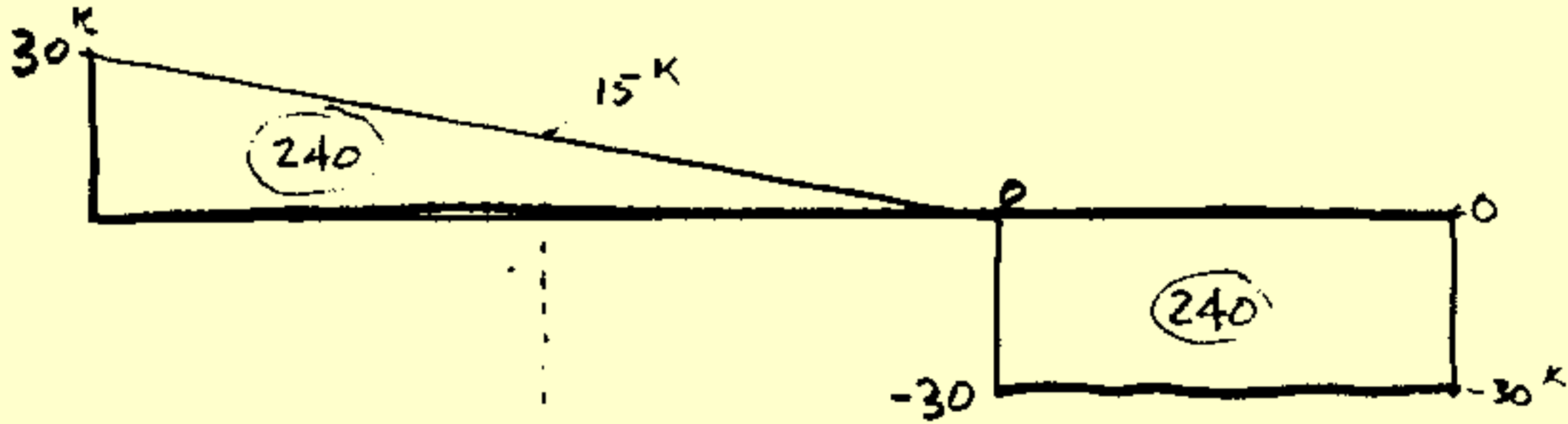
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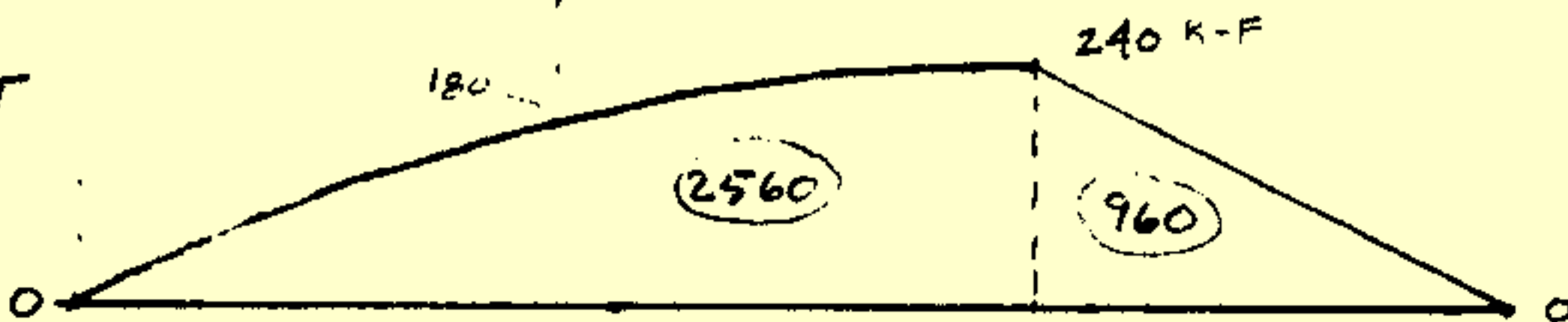
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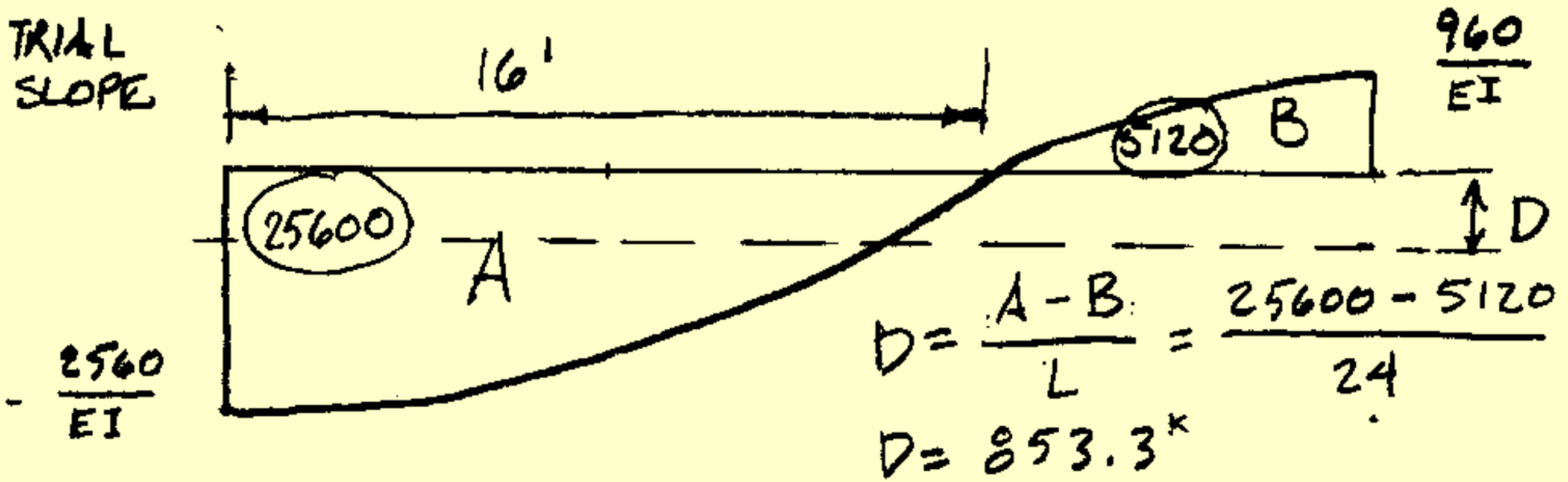
SHEAR



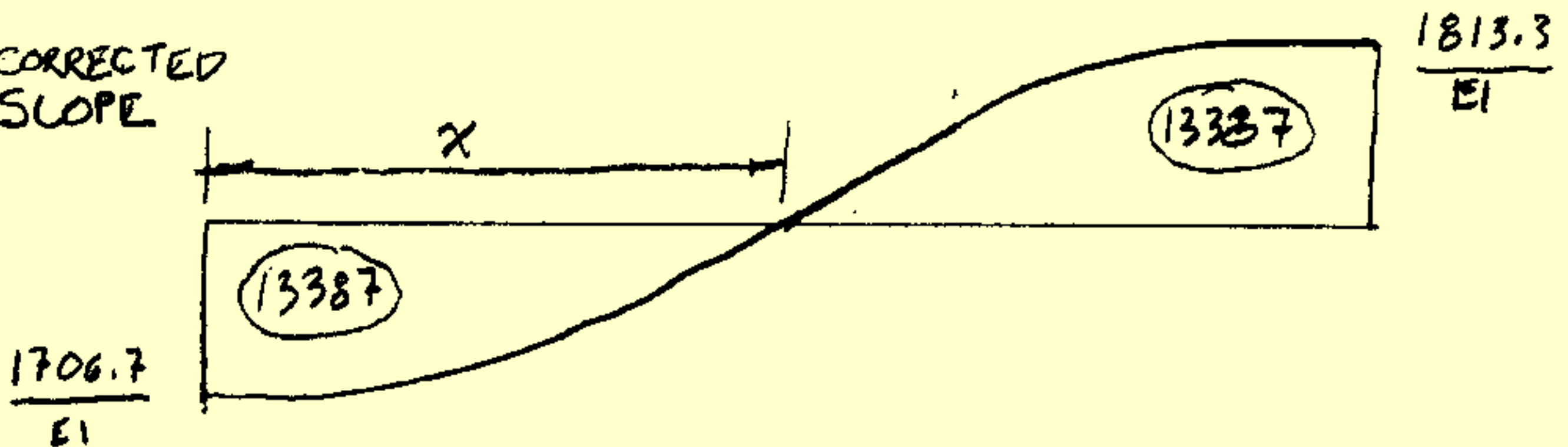
MOMENT



TRIAL SLOPE



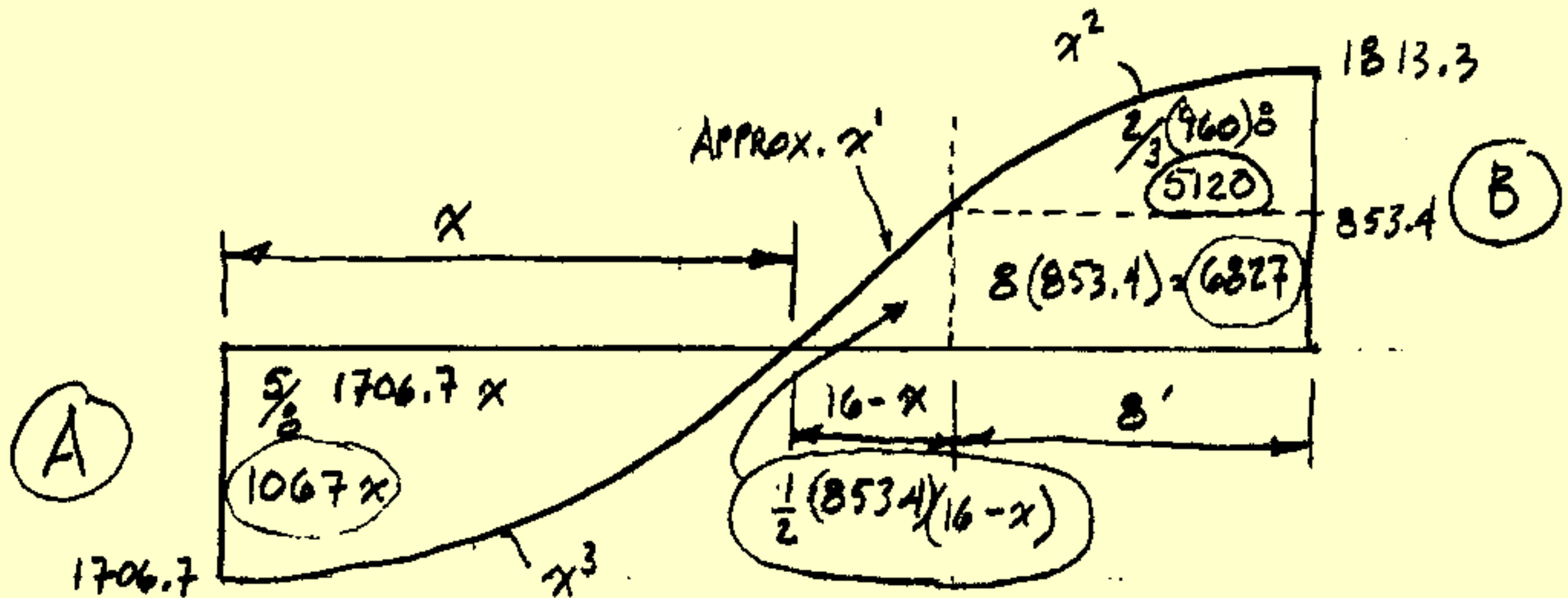
CORRECTED SLOPE



FIND X BY TRIAL & ERROR SO THAT AREA A = B

(CONT)

TO SOLVE FOR x , GUESS A TRIAL x AND THEN CALCULATE THE AREAS. ADJUST x SO THAT AREA 'A' BELOW EQUALS AREA 'B' ABOVE THE BASE LINE. APPROXIMATELY TRIANGULAR AREAS NEAR THE CENTER CAN BE $\frac{1}{2}bh$



TRIAL 1 - $x = 12'$

AREA (A) $1067(12) = 12804$

AREA (B) $5120 + 6827 + [\frac{1}{2} 853.4(16-12)] = 13654$ 6.6% OFF

TRIAL 2 $x = 13'$

AREA (A) $1067(13) = 13871$

AREA (B) $11947 + [\frac{1}{2} 853.4(16-13)] = 13227$ 4.6% OFF

TRIAL 3 $x = 12.6'$

AREA (A) $1067(12.6) = 13444$

AREA (B) $11947 + [\frac{1}{2} 853.4(16-12.6)] = 13398$ 0.3% OFF

AVG AREAS = 13421

DEFLECTION = $\frac{\text{AREA}(1728)}{EI} = \frac{13421(1728)}{29000(1830)} = \underline{\underline{0.6''}}$