By Similar Triangles From Stress Diagram:
\[ \frac{1.8 \text{ ksi}}{X} = \frac{2.5 \text{ ksi}}{18 - x} \]
\[ 2.5x = 1.8(18 - x) \]
\[ x = 7.5'' \]

\[ R_c = \frac{f_c B x}{2} = \frac{(1.8 \text{ ksi})(12'') (7.5'')} = 81 k \]

\[ R_c = R_T = A_s f_s \]
\[ A_s f_s = 81k = A_s (2.5 \text{ ksi}) \]
\[ A_s = \frac{81k}{2.5} = 32.4 \text{ in}^2 \]

Now Reduce by \( k = 8 \)
\[ A_s = \frac{32.4 \text{ in}^2}{8} = 4.05 \text{ in}^2 \]

\[ M = R_c (18 - x/3) = R_T (18 - x/3) = \frac{81k (18'' - 7.5''/3)}{12''/1} = 104.6 \text{ k}'' \text{ in} \]