10.5- Find reactions at A and B. I replaced L with 20 and W with 5 in my problem. A(y)=44.5 kips, B(y)=5.47 kips, M(a)=-140.63 kip*ft. Answers exact, No errors.
Find reaction supports at A and B.

Load applied from beam table. \( J + L = 20 \) and \( W = 5 \)

\[ V_B = \frac{8L^2}{3EI} \]

Distributed load slope only half of beam.

\[ V_B = \frac{W(\frac{3}{4})^4}{8EI} + \frac{V_B}{4} - \frac{1}{2} \left[ \frac{W(\frac{3}{4})^3}{6EI} \right] \]

\[ V_B = \frac{8L^2}{3EI} \cdot \frac{W(\frac{3}{4})^4}{8EI} - \frac{C}{3} \left[ \frac{W(\frac{3}{4})^3}{6EI} \right] = 0 \]

\[ B = \frac{7WL}{128} \]

\[ \begin{align*} \sum F_x &= Ax = 0 \ \\
\sum F_y &= Ay + B - \frac{WL}{2} \ \\
\sum M_A &= Ma - \frac{W}{2} \frac{3}{2} L (B) = 0 \end{align*} \]

Jet \( W = 5 \) and \( L = 30 \)

Therefore

\[ \begin{align*} Ay &= 44.5 \text{ Kip} \\
By &= 5.47 \text{ Kip} \\
Ma &= 140.63 \text{ Kip-ft} \end{align*} \]