Announcements

- Take the Piazza MATLAB workshop poll
- Quiz 5 next week – CBTF
- TAM210 last lecture: Friday, Nov. 3rd
- TAM210 CBTF Final: Nov. 9-12
- TAM211 CBTF Final: Dec. 14-20 (tentative)

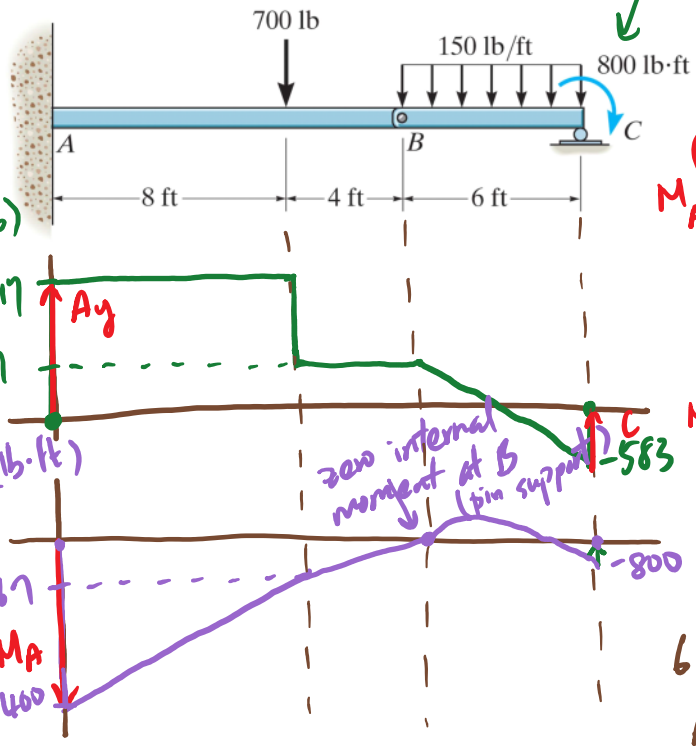
❑ Upcoming deadlines:

- Thursday (10/26)
  - ME HW17
- Tuesday (10/31)
  - PL HW18

Study Pointers

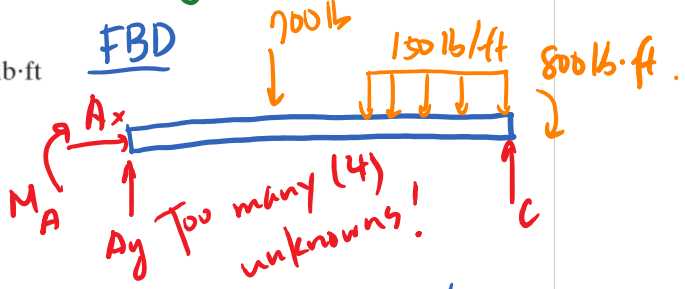
- Go over post-lecture slides for key concepts and solution procedures
- Do ME tutorial homework early
- Get into the habit of writing out the whole solution procedure for all homework/practice problems (identify unknowns, FBD, EoE… etc)
- Do extra problems from ME/PL to solidify concepts/find gaps in understanding – if you make mistakes, do more until you can solve similar problems perfectly ~ check out ME "Study Area"!
- Try timing yourself doing problems

Draw the shear and bending diagrams for the beam



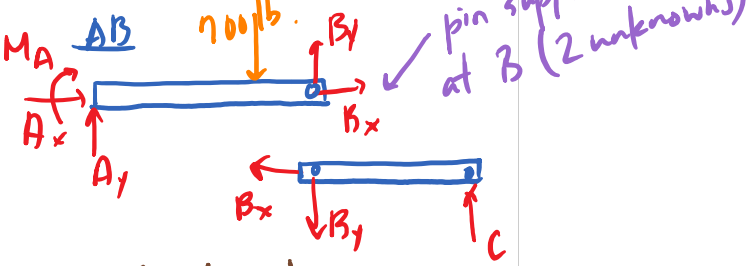
clockwise moment create positive jump in moment diagram

FBD



Too many (4) unknowns!

~ break up into parts.



6 EoE for 6 unknowns:

$A_y = 1017$ lb, $C = 583$ lb, $M_A = 9400$ lb·ft

Example

Draw the shear and bending moment diagram for the beam.

$A = 80$ kip , $B = 80$ kip.

at a^+, $V(a^+) = (-20 + A)\text{kip} = 60\text{kip}$

at b^-, $V(b^-) = [60 - 4(30)]$ kip

$= -60$ kip

at b^+, $V(b^+) = (-60 + B)\text{kip} = 20$ kip

at a, $M(a) = (0 + (-20\text{ kip})(15\text{ ft}))$

$= -300$ kip·ft

at C, $M(c) = -300$ kip·ft $+ \frac{(60\text{kip})(15\text{ ft})}{2}$

$= 150$ kip·ft