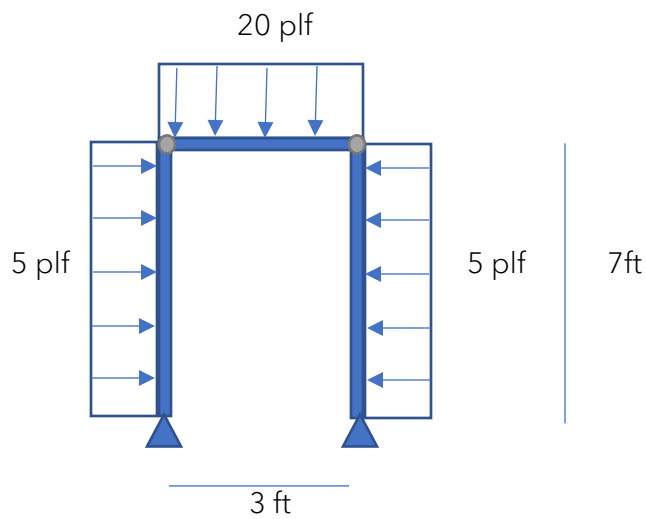


## Statics Worksheet #?

1. Frames and machines are composed of
  - a. Pin-connected multiforce members
  - b. Roller-connected multiforce members
  - c. Fixed connection multiforce members
  - d. Elmer's-glue connected multiforce members
2. The first step in drawing a FBD for a frame or machine is to
  - a. Identify the two force members
  - b. Isolate each part by drawing its own FBD
  - c. Label the forces
  - d. Google it
3. Ropes on pulleys have
  - a. The same compression on each side
  - b. Different tension on each side
  - c. Tension and compression
  - d. The same tension on each side
4. Internal loadings can be determined using
  - a. Your brain
  - b. Method of joints
  - c. Method of sections
  - d. Math
5. What three components are present in internal loadings
  - a. Normal force, shear force, bending moment
  - b. Force in the x, force in the y, moment
  - c. Normal force, force in the x, moment
  - d. Shear force, force in the y, moment
6. Draw a frame or a machine. What is special about it?

7. Your she-shed burnt down so you are building a new one. You put the frame for the door up and it doesn't collapse (success!). If the dimensions are as follows, the loading on the top of the door is 20 lbs/ft, and the lateral loading is 5lbs/ft, what forces are the pinned connections at the bottom resisting?



8. Draw the sign convention for internal forces.



9. You are designing a balance beam for your pet racoon, and you need to know if you should use wood, pool noodles, or cardboard. If the balance beam will be supported as shown below, and your racoon weighs 30lbs what are the internal forces acting in the center of the beam?

