Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1) Find the length of and tension in each dead-hung bridle leg. Choose a size and termination style for the aircraft cable used to make the bridle legs. What design factor did you use?: (8 points)



2) Find the reactions for this free body diagram of a flying system. Choose a fiber rope strong enough to support the largest reaction. What design factor did you choose?: (8 points)



3) What is the difference between a fixed-speed and a variable speed powered rigging system? What are fixed speed systems good for? What are variable speed systems good for? (6 points)

4) Explain the difference between a dead lift powered rigging system and a counterweight assist powered rigging system. (4 points)

5) Explain the following safety devices (6 points)

Overtravel limits:

Overspeed sensors:

Load sensors:

Overcurrent Protection:

Slack Cable sensors:

Load-side Brakes: