PEOL 366 – Vertical Rescue Techniques Worksheet

Provide a thorough response to each question. Observe the following guidelines:

1. Do not use red pen.
2. Print your name on the first answer sheet.
3. Write neatly, print, or use a word processor. If we cannot read your answers, you will lose points.
4. Clearly specify which question (and part of each question) you are responding to. For example, 2a), 2b), etc.
5. List your steps sequentially, labeling each step (STEP #1, STEP #2, etc.) to indicate the next step in your rescue sequence. Be sure to provide sufficient detail. We should be able to logically follow your reasoning.
6. You may use diagrams to help clarify your solution(s), but only if they are crystal clear.
7. STAPLE your answer pages together. Do not fold the edges or use paper clips.

For the questions below, assume that there is nobody around to assist you with the rescue response, your ropes are no longer than 50 m, and you have an adequate amount of climbing gear, one 16’ cordelette and several slings.

1. You’ve just completed the first of three rappels. When you attempt to pull the ropes for the next (second) rappel, it’s clear that they are solidly jammed.
   a) No matter how hard you pull, the ropes do not dislodge. You are absolutely sure you are pulling on the correct rope. Describe how would you free the ropes and continue on. Assume that the end of each rappel rope is on the ledge with you. (5 pts.)
   b) After a couple of hard tugs, the ropes move, but with considerable friction in the system. You continue pulling and the ropes jam again. No amount of continued pulling frees the ropes. You look up and see the trailing end of the upward moving rappel rope about 60’ above you. Describe your strategy for rope recovery. (5 pts.)

2. You are 40’ up on the third pitch of a climb. While reaching for a hold above, you dislodge a fist size rock which falls and glances off of your belayer’s helmet, knocking her unconscious. You have a good sized rack, and your footing is solid. Your partner is trailing a second rope.
   a) how would you get yourself back down to the belay ledge? (10 pts.)
   b) When you reach your partner you find that she’s coming to. She’s plenty groggy. A thunderstorm is brewing and it’s quite clear that you must make a speedy retreat. You are 280’ from the ground. Describe how you would get her (and you) safely, and quickly back to the ground. (10 pts.)

3. You’ve reached the top of a nine pitch climb, in an upper belay, belaying directly from your seat harness via a redirect. Your partner is below you, at the crux move, about 20’ up from the last belay ledge. No matter how hard he tries, he cannot make the move. Lowering your partner back to the belay ledge is not an option. He must get over the crux, onto easier climbing above. After several valiant attempts, he wears out and does not have the strength to continue. You decide to haul him over the crux using a raising system. You set the system up and begin to haul.
   a) Diagram your hoisting system. Keep in mind that your partner is MUCH heavier than you. Also, explain how you would safely convert from a hauling system back to a belay once you’ve hoisted your partner over the crux. (5 pts.)
   b) You begin hoisting and soon realize that it’s a next to impossible task. There’s just too much friction in the system. Describe 2 ways to reduce friction. (5 pts.)

This worksheet is worth 40% of your grade!
The due date is specified on the course syllabus.