

**Rock Climbing 3 Worksheet**

Name .....

This worksheet must be completed in its entirety for a passing grade. Be attentive to detail and precise with your answers. Print neatly. Assignments handed in late will not be accepted. Unless otherwise specified, questions are based on specific readings taken from the course text, *Climbing Anchors*, by John Long, and from the OPP climbing web page.

**PART A - KNOT REVIEW** Read the article on climbing knots posted on the OPP climbing web page and answer the following questions. The article is a password-protected pdf (pswd: *urock*). Go to: <http://opp.uoregon.edu/climbing/climb.html>

- 1. List the three categories of knots and describe the function of each category. (3 pts.)
  - a) .....
  - b) .....
  - c) .....
  
- 2. In selecting a knot for climbing, the strength of a knot is obviously important. It should not however, be the deciding factor. Name 3 other factors which are important in knot selection. (3 pts.)
  - a) .....
  - b) .....
  - c) .....
  
- 3. Discuss the main reason each of why the following knots are not used for tying in to the climbing rope. (2 pts.)
  - single bowline: .....
  - overhand follow through: .....

**PART B – NATURAL ANCHORS**

- 1. Long identifies three distinct advantages to using natural anchors. What are they? (3 pts.)
  - a) .....
  - b) .....
  - c) .....
  
- 2. When considering whether or not to use a tree for a natural anchor, identify AND discuss three important characteristics of the tree that will influence your decision. (3 pts.)
  - a) .....
  - b) .....
  - c) .....
  
- 3. It's very easy to assume that a large boulder or block will provide a solid anchor. Before using a boulder or block as a natural anchor, test it and BE SURE that it meets two basic requirements, which are: (2 pts.)
  - a) .....
  - b) .....

4. Long describes horns as being any kind of rock feature that can be slung for protection (flakes, spikes, chickenheads, etc).

a) What is the difference between a block and a horn? (1 pt.) .....

b) Before deciding whether or not to use a horn as a piece of protection, it's imperative to test the rock suitability and quality. Describe how you would do so. (1 pt.) .....

**PART C – SINGLE PROTECTION PLACEMENTS**

1. In this course, the acronym 'DRESS' is used to describe/evaluate a single piece of climbing protection. Write what each letter stands for AND discuss (thoroughly) what is meant by each (5 pts.)

D.....

R.....

E.....

S.....

S.....

2. Tapers are made in four basic shapes: *straight, curved, offset* and *micro*. According to Long, curved tapers have replaced straight ones "ten to one" because they are, in most situations, more stable when placed. Why are they more stable? (2 pts.)

3. Provide one advantage of using an offset taper and one disadvantage. (2 pts.)

a) Advantage: .....

b) Disadvantage: .....

4. What are two limitations of using a micro taper as a placement? (2 pts.)

a) .....

b) .....

5. Hexentrics can be placed with a slight camming action, improving security (somewhat) in parallel cracks. T or F? (1 pt.)

6. The larger tri-cams tend to be more stable than the smaller sizes. T or F? (1 pt.)

7. Name two advantages of placing an slcd over a passive form of rock climbing protection? (2 pts.)

a) .....

b) .....

- 8. Circle the correct response for the following questions on slcd's. (7 pts.)
  - a) Three-cam slcd's are stronger and more stable than 4-cam units. T or F?
  - b) A flexible cable will not load the cams as predicably as a rigid slcd. T or F?
  - c) The inherent flex of a cabled slcd can make placement and removal more difficult than a rigid one. T or F?
  - d) The most secure placement results when the cams are 50% to 90% deployed. T or F?
  - e) In a horizontal crack, it's okay to place a rigid slcd with the stem over the lip. T or F?
  - f) Slcd's are effective in offset placements (e.g. one cam at maximum range, one at minumum). T or F?
  - g) Camalots are the only units capable of holding a fall with the cams fully, or nearly fully deployed. T or F?

9. In the section 'What to do with that bolt' Long offers several suggestions for testing in situ bolts. Discuss 4 of these. (4 pt)

- a) .....
- .....
- b) .....
- .....
- c) .....
- .....
- d) .....
- .....

**PART D- CLIMBING ANCHORS**

Read the article on 'Anchor Principles' posted on the OPP climbing web page and answer the following questions. Go to:

<http://opp.uoregon.edu/climbing/anch/anchors.html>

1. Anchors, whether they are for belaying, top roping, or rappelling should adhere to the concept of S.R.E.N.E. Write what each letter stands for AND discuss what is meant by each (4 pts.)

- S \_\_\_\_\_ .....
- .....
- R \_\_\_\_\_ .....
- .....
- E \_\_\_\_\_ .....
- .....
- NE \_\_\_\_\_ .....
- .....

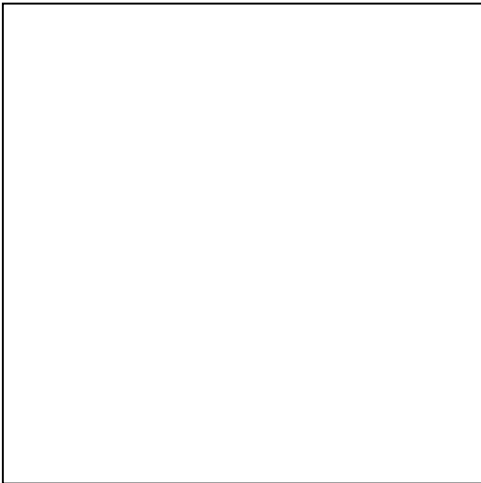
2. When building a multi-point anchor, the configuration of the slings determines how the load is distributed between anchor points. In the diagram titled 'How a 1000 lb. load is distributed between two anchors rigged at various angles', how much of the 1000 lb. load will each sling support in when inside sling angle is: (5 pts.)

- a) 20° ..... lbs.      b) 40° .....      c) 80° .....      d) 120° .....
- e) What is the main point of this diagram, in terms of rigging the safest possible anchor? .....
- .....

3a. In the box to the right, draw the 'American Triangle' configuration of anchor construction. (2 pts.)

3b. When considering that the force on an anchor system depends on how the force is distributed among anchor points, and the angle at the bottom of the sling, why should you avoid using the American Triangle? (3 pt.)

.....  
.....  
.....  
.....  
.....  
.....



4a. What is the biggest drawback to utilizing the self-equalizing slider knot, especially with a very long sling? (1 pt.)

.....  
.....

4b. Describe an easy way to eliminate this drawback. (1 pt.)

.....  
.....

5. List one advantage and one disadvantage of using a 'position equalized' anchor? (2 pts.)

advantage: .....  
disadvantage: .....

6. In chapter 9 of 'Climbing Anchors', Long addresses seven very important considerations for setting toprope anchors. Summarize each of these seven steps. (7 pt.)

- a) .....
- b) .....
- c) .....
- d) .....
- e) .....
- f) .....
- g) .....

**PART E- GYM CLIMBING VS. OUTDOOR CLIMBING**

1. From a safety perspective, describe how indoor (gym) climbing differs from climbing outdoors. (3 pt.)

.....  
.....  
.....  
.....