

Troop 111 First Class Practical Examination (2004 Version)

NAME: _____ DATE: _____

(I) Practical

- A) Correctly tie the following Scout Knots and explain the purpose of each: Square Knot, Clove Hitch, Lark's Head, Two Half-Hitches, Taut-Line Hitch, Timber Hitch, Bowline, and Double Figure Eight, Sheet Bend, and Sheep Shank.
- B) Determine Direction using: (i) the "stick and shadows" method; and (ii) the North Star; and (iii) with a non-digital watch. Explain how you can use the sun to determine direction if you know the general time of day. Explain how you can use a full moon to determine direction if you know the general time of night. Properly orient a map using any of these methods.
- C) Start a fire using only natural materials, with 3 matches or less, and have it burn for at least 5 minutes. Explain three other ways to start a fire without a flame source (for example, no Bic Lighters).
- D) What are the "Three W's", and why are they important in setting up a tent. Explain proper site selection and proper site clearing, when deciding where and how to set up a tent. Completely set up one of the Troop tents, solo, then disassemble it and properly pack it up

(II) Explain:

- A) What are the two principal methods for sterilizing drinking water or sterilizing dishes. If you're collecting water from an unsure source with your canteen, explain exactly how you fully sterilize the water before drinking; assume you are using iodine tablets or Polar Pure solution.
- B) Give two of the principal signaling techniques if you are lost or need help while in the woods?
- C) Why is wearing non-UV opaque sunglasses much worse than not wearing sunglasses at all?
- D) Explain proper foot care to prevent blisters while hiking?
- E) How do you hike in a straight line while in open country (without a compass or any other way to determine direction)? What will happen to you if you just try to walk straight?
- F) Why do you never cut switchbacks on hiking trails?
- G) Why do you never bring gas or propane fired lanterns, stoves, or heaters into your tent?
- H) Why do we always hike as complete groups while on wilderness trails?
- I) How do you stop arterial bleeding?
- J) Explain what "Reach/Throw/Row/Go" mean when trying to rescue a swimmer.

This Exam May Be Tested and Passed by Any Life Rank or Eagle Rank Scout, or by an SM/ASM.

Troop 111 First Class Practical Examination - Answers to Questions

I) Practical:

A) Knots

Square Knot - Join two ropes of equal diameter

Clove Hitch - "Post" hitching knot - for tying ropes to tarp poles, or for starting square or shear lashings

Lark's Head - Constriction knot, for attaching ropes to tarp or tent grommets, and (very important) for bear bags

Two Half-Hitches - Slip knot, very good for tying clothes-lines and similar post-to-post lines. Note that two half-hitches is just a clove hitch tied around its own tail!

Taut-Line Hitch - Slip knot that holds under tension; used primarily for setting up tarps (attach to stakes)

Timber Hitch - Slip knot used to start diagonal lashings.

Bowline - Fast tying rescue knot (can be tied one handed if necessary); also a good "loop" knot to create a permanent loop.

Double Figure Eight - Mountaineering knot for rock climbing; also an absolutely secure rescue knot that cannot untie itself through slippage (like a bowline can).

Sheet Bend - Join two ropes of UNEqual diameter. Note that a sheet-bend turned over looks the same as a bowline knot!

Sheep Shank - Shorten a rope without cutting it, using a knot that is very easy to untie.

B) Directions

(i) The "stick and shadows" method - Place a tall, straight stick in the ground, so it is straight up. Mark the end of the shadow with a rock (get it exactly right). Wait 20 - 30 minutes, and place a second rock on the new end of the shadow (again, get it exactly right).

Since the sun moves from east to west, the tip of the shadow moves from west to east. The line between the two rocks is the east/west line, so the first rock you placed is west, and the second rock you placed is east. Note that you can use any moon that is bright enough to cast a shadow to do the exact same determination.

(iii) The non-digital watch method - Point the hour hand at the sun. Halfway between the hour hand and 12:00 on the watch points SOUTH.

Explain how you can use the sun to determine direction if you know the general time of day.

- Because we live in the northern hemisphere above the Tropic of Cancer (23.5 degrees North latitude), the sun rises in the east, at midmorning is southeast, at noon is south, at mid-afternoon is southwest, and sets in the west. So, if you know the approximate time of day, you know where (what direction) the sun is. This is usually good enough to orient a map, or help you find your way around a city with a systematic street naming system, like Washington, DC.

Explain how you can use a full moon to determine direction if you know the general time of night.

- Because we live in the northern hemisphere, the full moon rises in the east at dusk, at midevening is southeast, at midnight is south, at late night is southwest, and at dawn sets in the west. So, if you know the approximate time of night, you know where (what direction) the full moon is.

C) Explain three other ways to start a fire without a flame source.

- Magnifying glass in bright sun
- Flint and Steel (same as a "spark stick"; difficult to do with rock, but is possible)
- 9-volt battery and steel wool (other batteries also work, like car batteries)
- Stick and bow method (rubbing sticks together - difficult to do, even for people who know how)

D) What are the "Three W's", and why are they important in setting up a tent.

- Wind, Wash (or Water), and Widowmakers - Wind - the back end of the tent should be faced into the wind. The sides of the tent are usually the weakest part, but also the largest surface area. The front can allow a strong breeze to "parachute" the tent, ripping it out of the ground. Wash - Avoid camping in the flood plains of even small creeks, or in the lowest point of a field or meadow - a heavy rain storm can easily flood you out. Widowmakers - look up and around when setting up a tent - avoid areas where dead branches or even a dead tree can fall on you, especially in windy weather.

- Explain proper site selection and proper site clearing, when deciding where and how to set up a tent. It is preferable to camp on a slight slope so that rainwater can run away from the tent. Most people prefer to sleep with their heads uphill and near the door (so easier to get out), so if there is little or no wind, the tent should be oriented this way. In cold or windy weather, it is better NOT to camp in the middle of a big field, but rather alongside or in the woods if possible; this will help prevent dewfall on the tent. Site clearing - get rid of sticks, rocks, and anything else that will make for a lumpy bed or that can damage the tent bottom.

II) Explain:

A) Water Purification

What are the two principal methods for sterilizing drinking water or sterilizing dishes?

- By chemical disinfectant (iodine or chlorine tablets or solutions, etc.)
- Hand-pump filters or purifiers
- By boiling it (them) for 10 minutes

If you're collecting water from an unsure source with your canteen, explain exactly how you fully sterilize the water before drinking; assume you are using iodine tablets or Polar Pure solution.

- Add disinfectant tablets to the water in the canteen, wait 10 minutes to dissolve the tablets,* shake up thoroughly, turn upside down and loosen the cap, "burp" some of the disinfected water over the cap and lip of the canteen, re-screw the cap back on, then wait 1 hour before drinking. This is referred to as "threading" the cap. [* For Polar Pure, no need to wait for the initial 10 minutes, just add, shake up, thread the cap, wait 1 hour, and it's good.]

B) Give two of the principal signaling techniques if you are lost or need help while in the woods?

- 3 smoky fires in a straight line row, each separated by enough distance that it's obviously three separate fires (not just one huge one).
- spell out "Help" VERY LARGELY in nearby open fields in the snow or with rocks or dark branches
- signal low-flying planes or helicopters with a mirror (tough to do! - use the "Bob-trick" with a long stick to aim your reflected beam!)

C) Why is wearing non-UV opaque sunglasses much worse than not wearing sunglasses at all?

- Dark sunglasses "trick" your eyes into thinking it's night-time, which causes your pupils to dilate, allowing more light in (including UV light); so if your sunglasses are not UV opaque, you will cause much greater damage to your eyes! (Lesson being, don't buy or use cheap sunglasses, especially skiing, at the beach, or at high altitudes.)

D) Explain proper foot care to prevent blisters while hiking?

- Keep your feet dry (use foot-powder, change socks often)
- Wear proper socks (thin polypropylene followed by cotton followed by wool)
- Wear good boots which are broken in on YOUR feet.

E) How do you hike in a straight line while in open country (without a compass or any other way to determine direction)? What will happen to you if you just try to walk straight?

- Line up two landmarks in a row in the direction you want to travel (trees, rock-formations, hills, etc.) Go to the first landmark, and look past the second to select a third landmark in the line. Walk to the second, etc. (continue the process). If you don't do this, you will walk in huge (20 mile) circles, or at an angle to where you are trying to go, because one of your strides is always a little longer than the other.

F) Why do you never cut switchbacks on hiking trails?

- Causes trail erosion

- much greater chance of injury
- much greater chance of getting poison ivy

G) Why do you never bring gas or propane fired lanterns, stoves, or heaters into your tent?

- can easily cause a fire (ALL tents and most pieces of camping gear are flammable!!!)
- In closed tents, can easily suck up all the oxygen, cause you to asphyxiate - MANY PEOPLE HAVE DIED DOING THIS!!!

H) Why do we always hike as complete groups while on wilderness trails?

- to prevent getting split up and/or lost
- only the group has all survival gear (first aid, food, tents, etc.; small split-off groups may not have basic health and safety equipment with them.)
- in case of injury, everyone available to help

I) How do you stop arterial bleeding?

- Direct Pressure right on the wound if possible; Pressure Point between the wound and the body if it is not possible to apply direct pressure on the wound

J) Explain what "Reach/Throw/Row/Go" mean when trying to rescue a swimmer.

- Reach - with a pole or long stick; something the swimmer can grab while you drag them in.
- Throw - a life buoy or anything that floats - preferably on a rope so you can drag the swimmer in.
- Row - Row out on a rowboat, or a canoe, or even a surfboard or air mattress - something that floats that can support both of you. If a canoe, be careful not to allow the swimmer to capsize you - best in all cases to have a rope for the swimmer to grab while you tow them in.
- Go - Swim out to get the swimmer. Try to avoid at all costs having to grab the swimmer. Instead, bring a rope, a towel, a stick, or something else for the swimmer to grab while you tow them in. If they start coming up the tow rope to grab you, let it go and swim away until they get too tired or too drowned to grab you. If they grab you while they are still panicked and fighting, you will probably both drown! This is why "Go!" is always the last resort!