

## Tie the following knots:

- Reef knot,
- Sheet bend,
- Clove hitch,
- Bowline,
- Round turn and two half hitches,
- Sheepshank.

Tying knots is a key skill you will use in many onland activities.

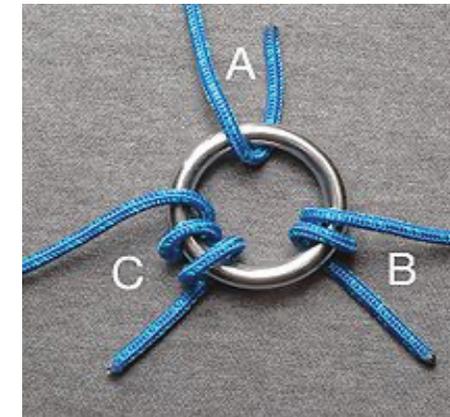
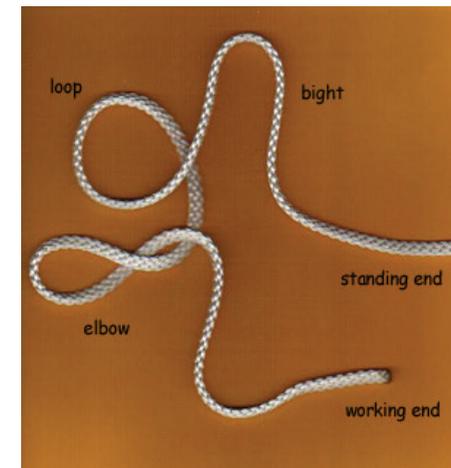
It's important to know which knot to use when, as selecting the right one will often be a safety requirement. Let's start by getting some words right, so that we all have the same understanding, there are some strange words, but if we all use them to mean the same thing we shouldn't get confused:

**Rope** This is the manufactured material, before it is given a specific use.

**Line** Once rope is purposely sized, cut, spliced, or simply assigned a function, it is referred to as a line.

Now let's look at the words that describe the parts of a knot:

- **Bight** Any curved section, or slack part between the ends of a line.
- **Loop** A full circle formed by passing the working end over itself.
- **Elbow** Two crossing points created by an extra twist in a loop.
- **Standing end** is the longer end of the line not involved in the knot, often shown as unfinished.
- **Turn** A single turn is a single pass behind or through an object (A).
- **A round turn** is the complete encirclement of an object; requires two passes (B).
- **Two round turns** circles the object twice; requires three passes (C).
- **Working end** is the active end of a line used in making the knot and may also be called the 'running end'.



There are many categories of different knots for different purposes, and some knots may belong to more than one category.

- **Bend** A knot uniting two lines.
- **Binding** A knot that restricts object(s) by making multiple winds.
- **Hitch** A knot tied to a post, cable, ring, or spar.
- **Lashing** A knot used to hold (usually) poles together.
- **Loop** A knot used to create a closed circle in a line.
- **Splice** A knot formed by interweaving strands of rope rather than whole lines. Stopper A knot tied to hold a line through a hole.
- **Whipping** A binding knot used to prevent another line from fraying.

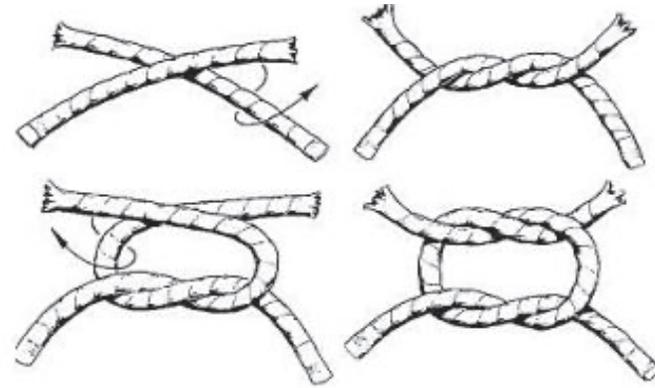
# The Reef Knot (or square knot)

The reef knot, or square knot, is an ancient and simple binding knot used to secure a rope or line around an object. It is sometimes also referred to as a Hercules knot. The reef knot is at least 4,000 years old.

The knot is formed by tying a left-handed overhand knot and then a right-handed overhand knot, or vice versa. A common mnemonic for this procedure is "right over left; left over right", which is often appended with the rhyming suffix "... makes a knot both tidy and tight".

Two consecutive overhands of the same handedness will make a granny knot. The working ends of the reef knot must emerge both at the top or both at the bottom, otherwise a thief knot results.

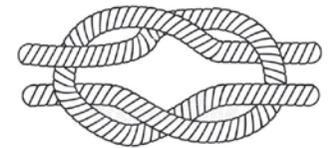
This is a common knot, but should never be used as a bend (to tie two lines together, as it comes undone very easily).



It's great as your first practice knot, and is useful for tying parcels, tying bandages and slings (because it lies flat) and for its original use which was tying down sails on sailing boats – which is called reefing.

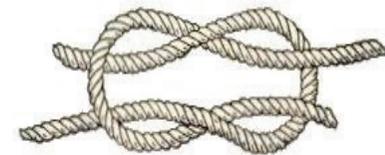
## The Granny Knot

If you tie the reef knot incorrectly, you will create the granny knot. It is thought that the name originated from its use of tying the necks of sacks in granaries. This is where the first hitch is repeated and so there is no loop on either side.



## The Thief Knot

The thief knot resembles the reef knot (square knot) except that the free, or bitter ends are on opposite sides. It is said that sailors would secure their belongings in a ditty bag using the thief knot, often with the ends hidden. If another sailor went through the bag, the odds were high the thief would tie the bag back using the more common reef knot, revealing the tampering, hence the name. It is difficult to tie by mistake, unlike the granny knot.

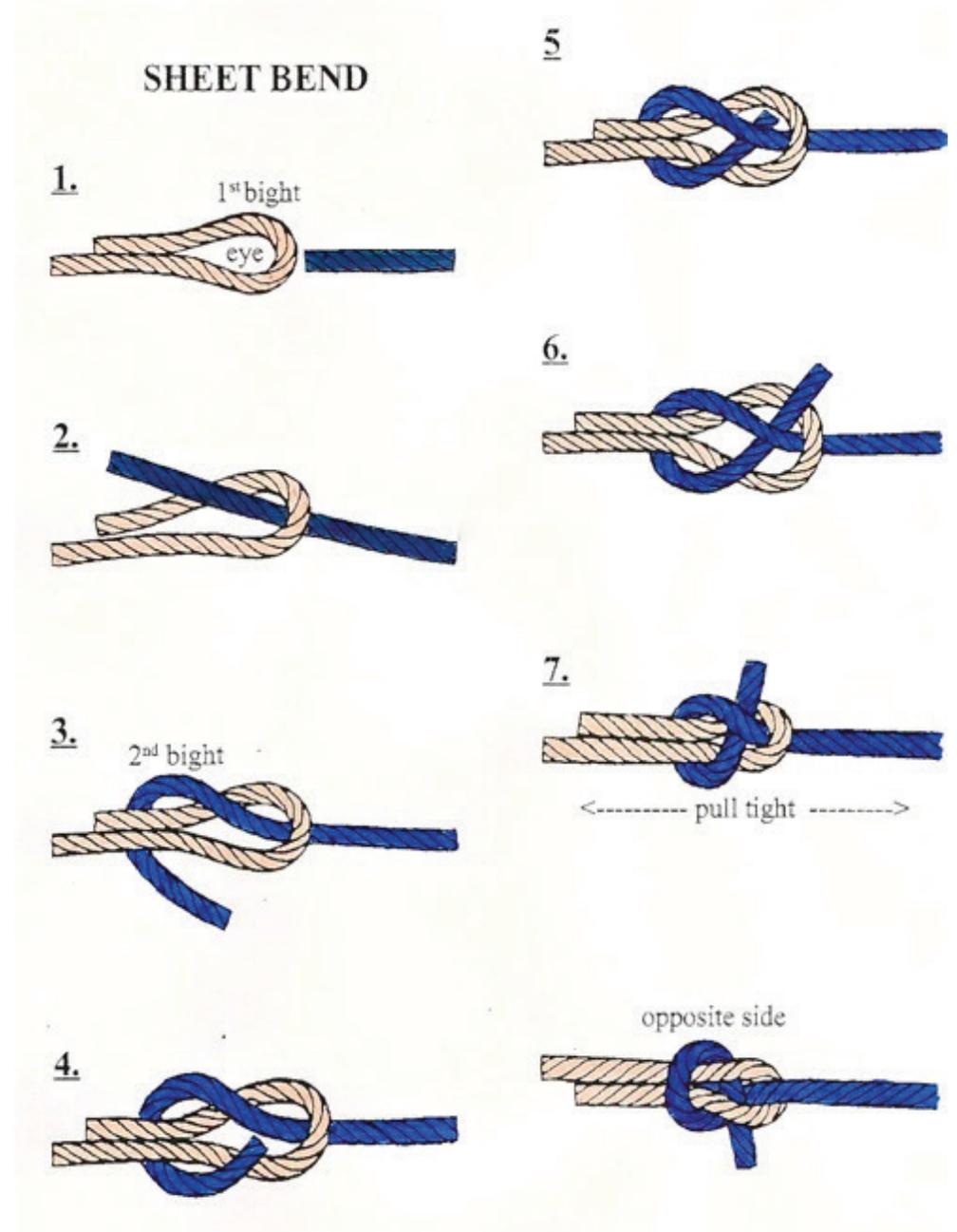


# The Sheet Bend (or weaver's knot)

The sheet bend is used for tying two lines of unequal thickness together, but is also actually better than the reef knot for tying two lines of equal thickness. To make it secure you need to ensure that the two working ends finish up on the same side of the knot.

This can be made even more secure by converting it to a double sheet bend. Always work with the thinner of the two lines.

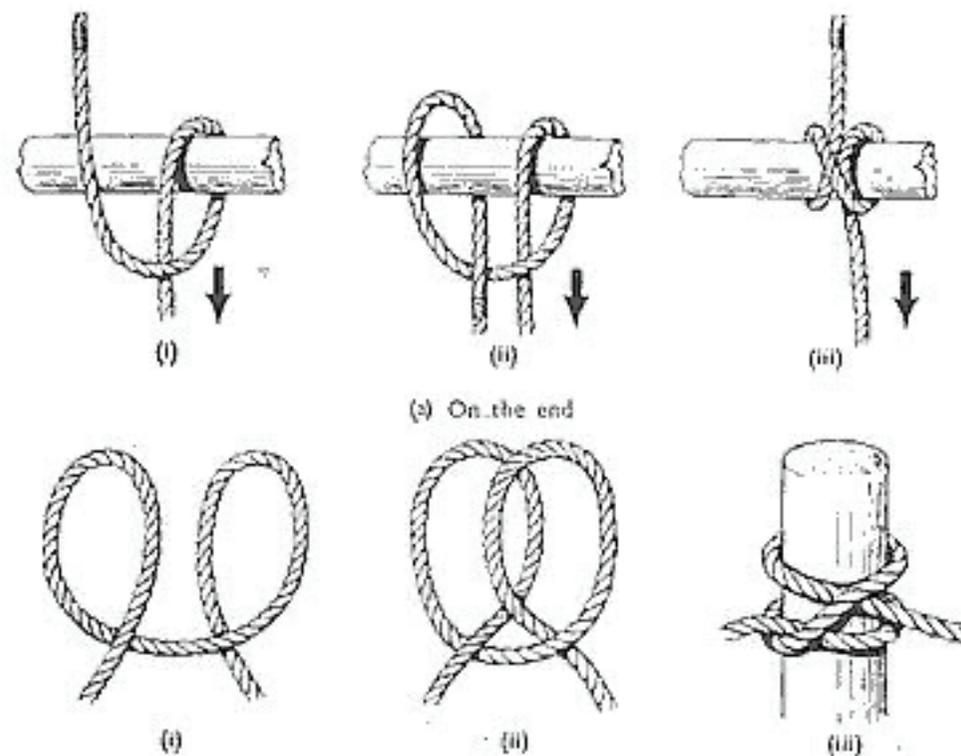
The term "sheet bend" derives from its use bending ropes to sails (called sheets). It was even used by neolithic people - so it has been around for a very long time!



# The Clove Hitch (or double hitch)

You will use the clove hitch in lots of different applications, for example for starting a square lashing, and for tying things to poles, rings or spars. It is very quick to tie, and useful because the length of the standing part can be adjusted very easily. This knot is particularly useful where the length of the running end needs to be adjustable, since feeding in rope from either direction will loosen the knot to be tightened at a new position. With certain types of cord, the clove hitch can slip when loaded.

It is used very widely in sailing and boating, and is another very old knot, dating back to the early 16th Century at least!

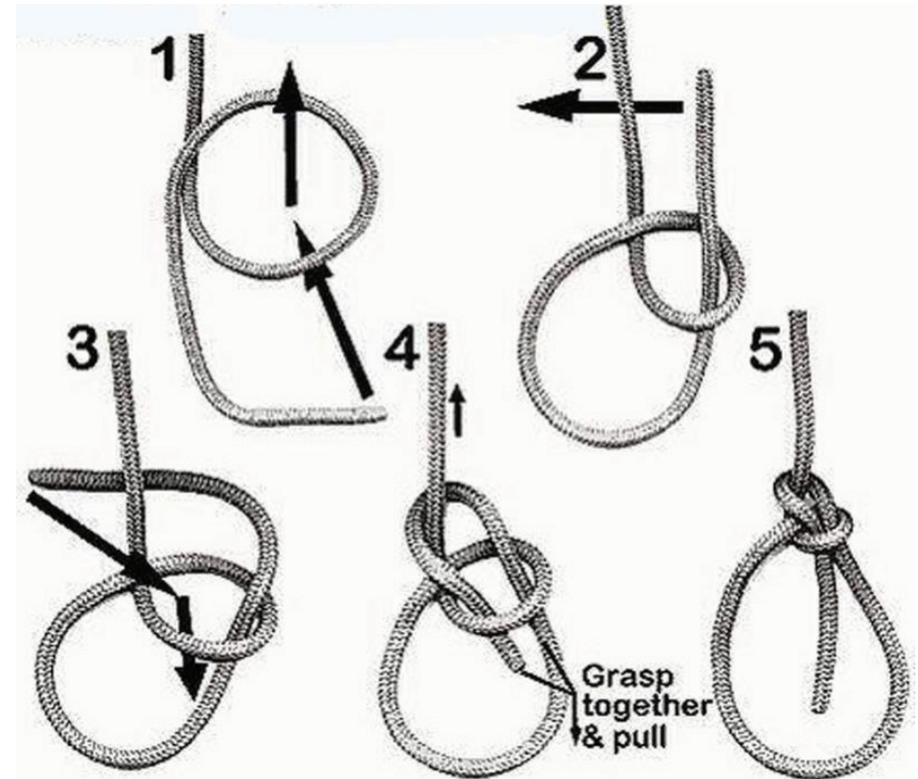


# The Bowline knot (or King of Knots)

This is widely regarded as the best knot for forming a secure loop in a line, which can be untied easily even after it has been under great pressure. It is commonly used for tying boats to quaysides, and if you imagine the weight of a heavy boat, constantly tugging at its mooring you need a knot that can be untied easily afterwards.

The bowline used to be common in mountaineering and as a rescue knot, and it is useful for you to learn to tie it around your waist, but other better knots are more commonly used for these purposes now.

The structure is actually the same as the sheet bend, the bowline just makes a loop in the end of one line. If you can tell what a sheet bend looks like when you have tied it correctly, you will be able to recognise a correctly tied bowline too.



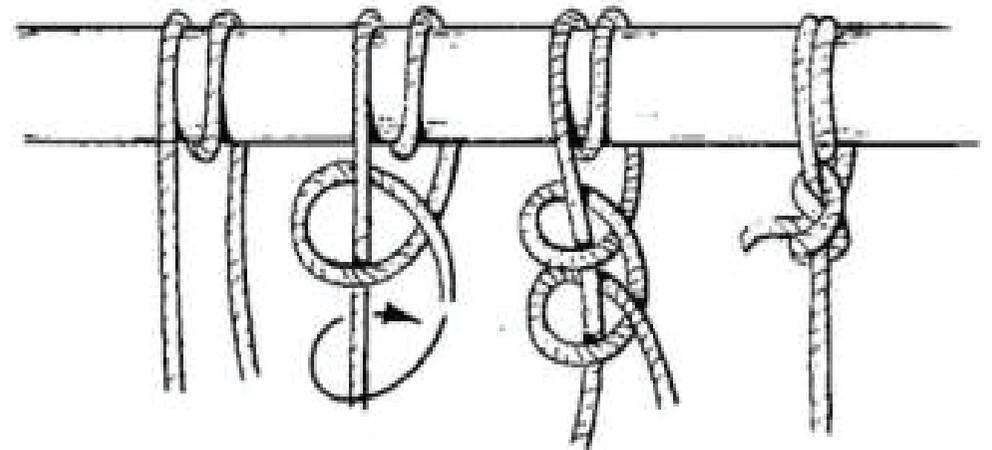
A **mnemonic** used to teach the tying of the bowline is to imagine the end of the rope as a rabbit, and where the knot will begin on the standing part, a tree trunk. First a loop is made near the end of the rope, which will act as the rabbit's hole. Then the "rabbit" comes up the hole, goes round the tree right to left, then back down the hole. This can be taught to children with the rhyme: "Up through the rabbit hole, round the big tree; down through the rabbit hole and off goes he."

# The Round Turn and Two Half Hitches

The round turn and two half hitches is a hitch used to secure the end of a rope to a fixed object.

The name refers to the components used to form the knot: a round turn wraps the rope around the object (completely encircling it) and the two half hitches secure the end around the standing part.

A really useful knot for tying things to poles, spars or rings.



Adding the two half hitches is a simple way of making it secure.

# The Sheep Shank

There are times when a piece of line needs to be shorter, but we don't want to cut it and make it permanently shorter. A good example of this is shortening the guy line for a tent – we may want it short this time, but need the whole length the next time we put the tent up.

The sheepshank can also be used to protect a weak part of the line temporarily, before we get round to repairing or replacing it.

To start with, the rope must be folded into three layers. (If the knot is used for protection of a weak part, the weak part should be in the centre of the middle layer).

Next, a “half hitch” is put round the end of the knot, so as to hold the remaining two ropes tightly together. The same is repeated at the other end.

The two ends are then pulled tight, and the knot is finished.

## Sheepshank Knot Instructions

