United States Search and Rescue Task Force, "Ropes & Knots" Abridged and revised by Eric Rasmusen, June 2, 2010

Knots

Bowline

An extremely sturdy, and therefore safe, fixed loop. Used by emergency personnel to loop around a victim's body, under their armpits, for rescue operations. If properly tied, it will not grow or shrink under a load.

This can be used for tying a rope around a belay but is most often used for tying the end of a safety line rope around a person when belaying them up a climb or ladder.

This knot does have a tendency to loosen and can come undone so it is a good idea to used a half hitch to secure the "tail" of the knot to the loop.

Figure-of-Eight

This is a very versatile knot most commonly used for attaching ropes to anchor points. Most things that can be done with fancier knots (e.g. double loop knots for a Y-belay) can also be done with a suitable combination of figure of eights. If you only learn one knot, make it this one.

Fisherman's Knot

Ideal for heavy, stiff, or otherwise difficult to work with ropes, this knot is easy to tie, but once it has been tightened down, it can be very difficult to remove, especially difficult to remove if it has a load on it (for example, if used in suspension). Slippery rope, such as nylon, will require a double tie on each end to make it fast.
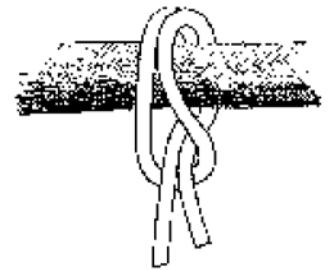

Lark's Head/Foot

This very easy knot can be tied even if the ends are already tied down. Both ends of the rope must have the same load, or the knot could slip and become unreliable.

Use to tie into grommets or eyebolts for a neat, clean look. Also used to tie into D-rings, such as those found on a collar or on wrist restraints.
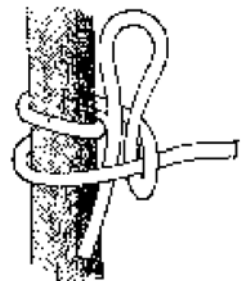
A body harness or "Web" can be started by attaching to the subject's collar with a Lark's Head. For this type of application, the knot must be made with the center of the rope, leaving two equal lengths to work symmetrically around the body.

Round Turn

A quick way to tie down a rope end. Not secure enough to be used where safety is an issue, but excellent for temporarily securing the rope end.

If you don't pull the rope end through, but only the loop, you are left with a Slipped Round Turn (pictured), which is a great temporary fastening, as it can be released with one pull of the rope end.

Square or Reef Knot

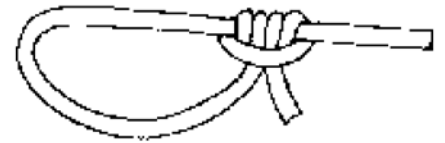**This is a knot for tying two rope ends together. Learn the**

knot by twisting one end over the other one. Then twist
them again, with the same end on top once again. Tighten,
and the knot is done. Make sure both twists have the same
rope end on top.

Not to be used when your safety depends on it, but appropriate when you need a
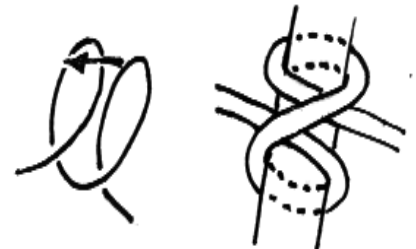knot that's really quick and easy.

Prusik

For creating a loop whose size can be changed by sliding
the knot up and down the line. Sliding loops such as this
one can be used to tighten down a line. Tie the loop
around your anchor point, then slide the knot down the
line, making the loop larger. The line will be pulled tight,
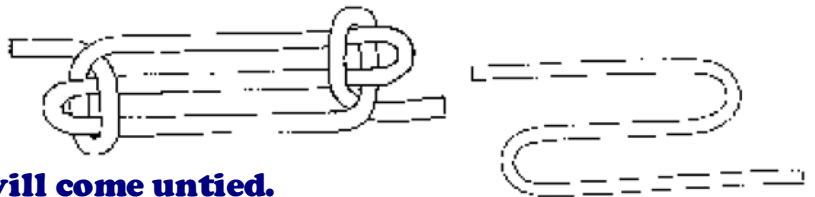and will remain there. With this knot, neatness does count.

Clove Hitch

A popular knot among hobbyists, this is commonly used
in many disciplines, but not too often in SM. This is
because it does not tend to hold up under varying stress,
only if the load is equal on both lines. However, if the ends
are brought back from the anchor in the same direction,
the resulting hitch is safe and elegant, provided that the
load on both lines is equal.

Sheepshank

Use this to shorten the middle of a
rope, for instance to take up slack
in a rope already tied at both ends.
It must be kept under a load, or it will come untied.

Alpine Butterfly

A good knot for rebelays or for tying rub points out of a rope. Its main advantage is that the two strands of rope emerging from the knot are at 180 degrees to one another rather than emerging in the same direction as in a figure-of-eight for example. This makes it a good mid-rope knot and good for rebelays because it has greater strength than a figure-of-eight if the rebelay fails.

Tie this
around
your hand