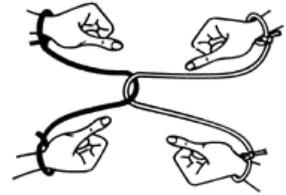


# THE PUZZLES



## 1. The Handcuffs Puzzle:

You will need a partner for this puzzle. The first person puts on a set of handcuffs. The second person loops his/her handcuffs through the first set of cuffs before putting them on (see picture). You should now be hooked together to your partner by the handcuffs. The object of the puzzle is to get yourselves apart while following these rules:

- a. You cannot take off the handcuffs.
- b. You cannot break, cut through, saw, or in any other way damage the rope. Damaging each other is probably a bad idea too.

## 2. Knot Tying Puzzle:

You can pick up a rope by each end and tie a knot in the rope without letting go of either end. How?

## 3. Trousers Puzzle:

Pull on a pair of sweatpants over your clothes. Place the rope “handcuff” on each ankle, so that now your ankles are tied together with a long rope between. Remove the sweatpants and put them back on inside out without removing your “ankle” cuffs.

## 4. Perplexing Pencil Puzzle:

Detach the pencil from the shirt without cutting, breaking or in any other way damaging the pencil, the string, or the shirt.

## 5. Paper Cutting Trick:

Take a 3”x5” index card and cut a hole in it that is large enough for you to fit your whole body through.

## 6. Join the Washers:

Without untying any knots, or damaging the string in any way, move both washers onto the same side. Then move them back to their original positions.

## 7. Loop and Vest Trick:

You can do this by yourself, but it is much easier to use a volunteer. The volunteer puts on the vest (zipping/snapping/buttoning it up). The volunteer places the loop over one arm, and puts that hand on that arm in the vest pocket. The problem solver must now remove the loop without the volunteer removing his hand from his pocket, and without passing the loop over this hand.

## The Solutions

Here are internet links to the solutions of these puzzles:

1. [http://mathssquad.questacon.edu.au/the\\_handcuffs\\_puzzle.html](http://mathssquad.questacon.edu.au/the_handcuffs_puzzle.html)
2. <http://www.pitara.com/activities/craft/online.asp?story=45>
3. <http://www.youtube.com/watch?v=O70156EDGuY>
4. <http://www.aimsedu.org/solutions/pencilSol/pencil.html>
5. <http://www.puzzles.com/PuzzlePlayground/ThroughPostcard/ThroughPostcardSec.htm>
6. <http://britton.disted.camosun.bc.ca/jbstringring.htm>
7. Couldn't find a link for this one—here is the idea: push the loop through the arm hole of the vest, out of the neck hole, over the volunteer's head, down through the neck hole and out the other arm hole, around the volunteer's other hand, and back into the vest. If you did this correctly, the loop should now be around the volunteer's chest, under the armpits. So you can just pull it down to the feet, and the volunteer can step right out.

And finally, a link to the linking paper clip trick we started with:

[http://mathssquad.questacon.edu.au/linking\\_paperclips.html](http://mathssquad.questacon.edu.au/linking_paperclips.html)