

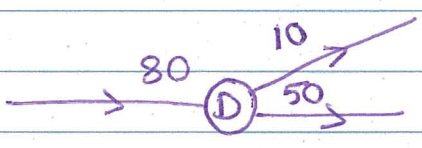
EX 150 NETWORK FLOW

A network's starting node is the SOURCE

A network's end node is the SINK

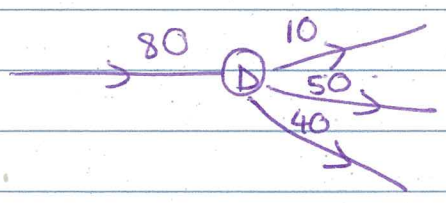
INFLOW total of numbers coming into node

OUTFLOW lowest of numbers leaving node OR coming in



inflow to D of 80
 outflow of D is $10 + 50 = 60$

where as



inflow is still 80

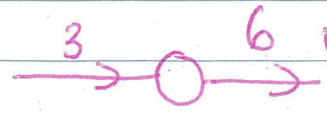
capacity leaving D is
 now $10 + 50 + 40 = 100$

* so choose lower of 2
 ❖ outflow is 80

This can be a little confusing but think of it like this

SUPPLY
 you can only make
 3 pairs of
 earrings a
 week

DEMAND
 but you have
 customers
 wanting 6
 pairs a week



(2)

You can't do anything about making more earrings (at the moment) so your capacity is STILL 3 not 6.

Flow CAPACITY of a network is the total flow possible through a network

So many definitions, twists and turns
Mrs V! What are you doing to my brain??!!

Read through the example in the booklet on page 772 - 774

↪ This explains the process for simple networks really well

For more complex networks we have to use a different process

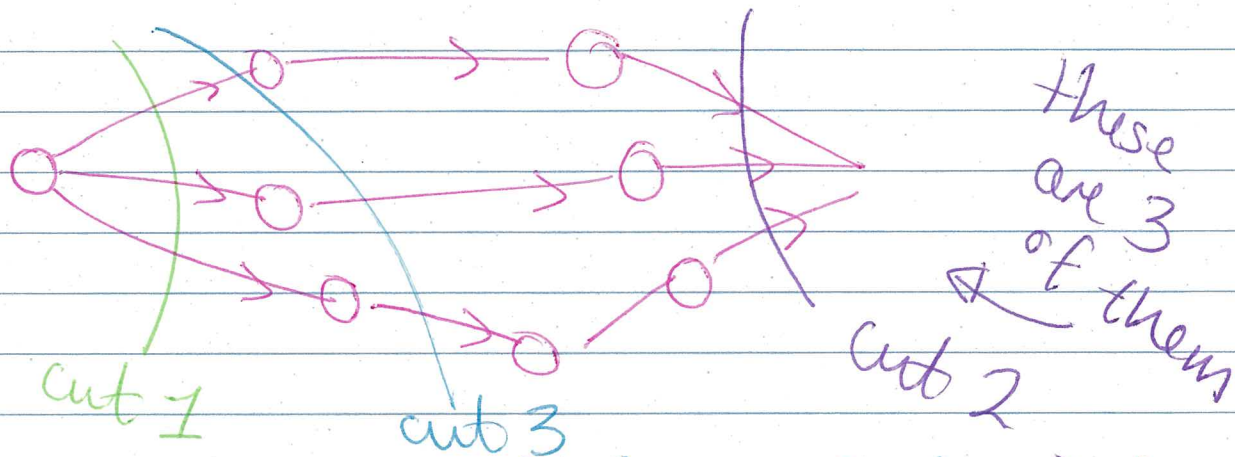
MINIMUM CUT - MAXIMUM FLOW METHOD

To work out max flow, you need to 'cut' into two parts

minimum cut is the cut with min value

maximum flow through a network equals value of minimum cut.

The 'cut' is a line drawn across the edges that STOPS ALL FLOW from source to sink.



There are lots of options for 'cuts'

- * Add up the numbers on the edges
- * The lowest number is the minimum value
- ↳ this then becomes the maximum flow

Usually helpful to do a cut at

SOURCE first } this gives
 SINK next } you some
 upper and lower
 limits to
 compare to

**

- * If an edge is directed back into a node when you have done a cut, that edge is ignored.