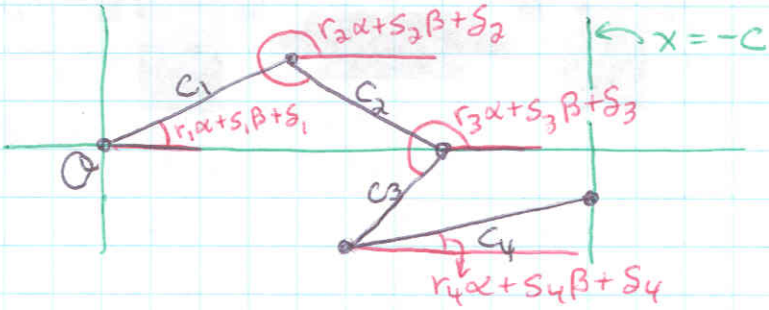
Kempe's proof (cont'd)

6.885
L2.3
Sept. 13, 2004

- new goal: construct line segments of length c_i and angle $r_i\alpha + s_i\beta + \delta_i$, for each i

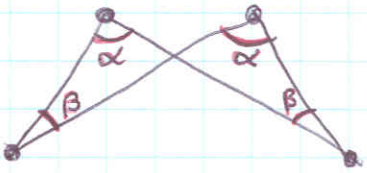


- idea: build a "machine" where data = ~~slope~~ angle of edge
- need these gadgets:
  - multiply given angle by integer
  - add two given angles
  - copy an angle from one place to another

) needed for

Contraparallelogram:

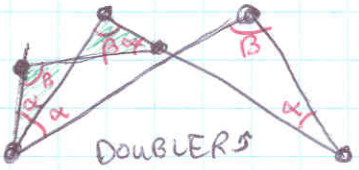
- opposite angles equal
- α determines β $\leftrightarrow$

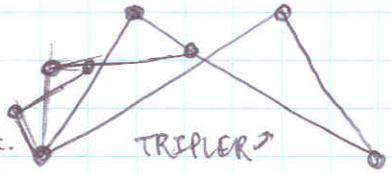


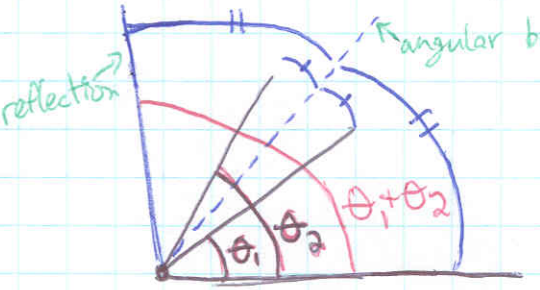
Multiplicator:

- two similar contraparallelograms sharing their β's $\Rightarrow$ equal α's
- repeat for tripler, quadrupler, ...
- improvement in lecture: use binary "double & optionally add 1" to get $O(\lg k)$-bar $k\times$ multiplier

OPEN: $\Omega(\lg k)$? $O(1)$?





Additor:

- use 2× multiplicator to
  - divide angle in half
  - reflect