

A 2.1

Part 1

Look at an edge.

Part 2

Rotations as roots of unity.

Part 3

Want to know $c^i b c^j$. Know $bc = c^{n-1} b$
and $bc^{n-1} = cb$.

Case $i > j \geq 0$

$$c^i b = c^{i-1} c b = c^{i-1} b c^{n-1} \quad \text{And repeat.}$$

$$c^i b = b [c^{n-1}]^i \quad [n-1]i = i - i$$

There are still c^j on the other side.

$$\Rightarrow b c^{i - i + j} = b c^{j - i}$$

if $i < j$, then $j - i < 0$. Just add $c^n = c$

$$b c^{n + j - i}$$

Other cases $bc^i bc^j$, $c^i c^j$ and $bc^i c^j$ are now trivial.