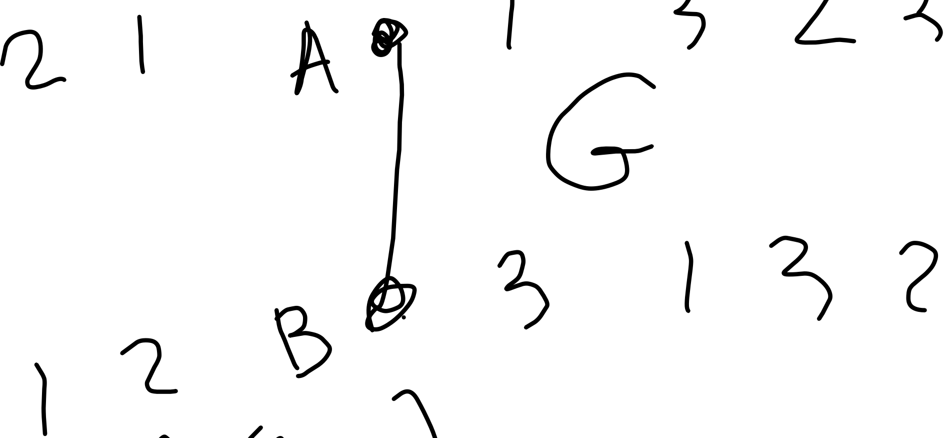
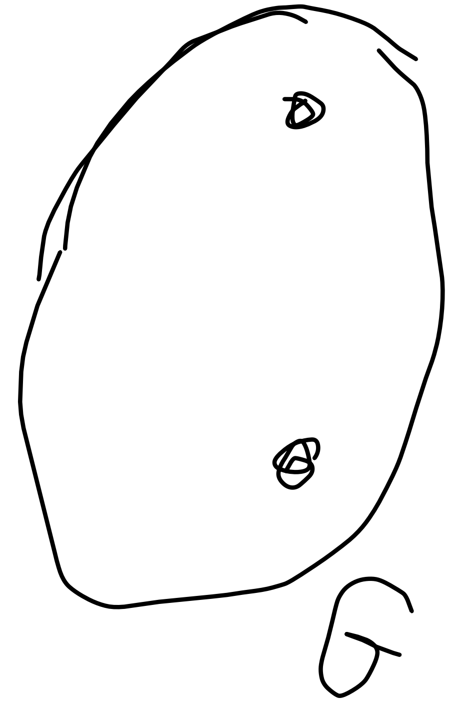


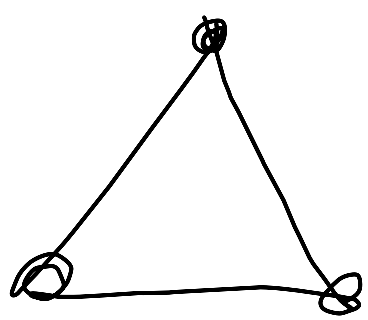
$\pi_1(G) = 0$

$\pi_2(G) = 2$

$\pi_3(G) = 6$

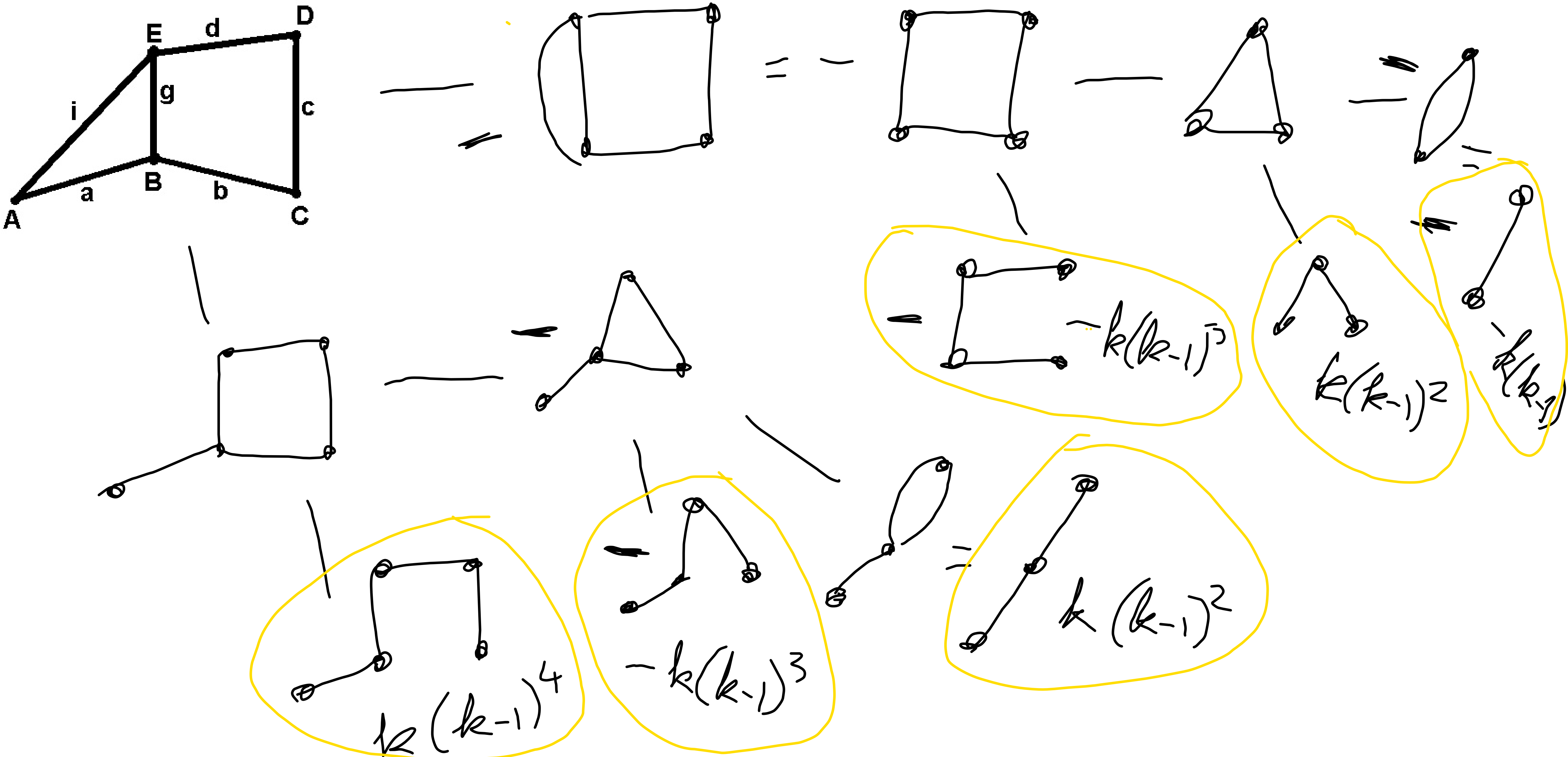
$k(k-1)$





$k(k-1)(k-2)$

$\pi_k(G-e) = \pi_k(G) + \pi_k(G \cdot e)$



A
B
C
D
E
a
b
c
d
g
i
$-k(k-1)^3$
$k(k-1)^2$
$-k(k-1)$
$k(k-1)^4$
$-k(k-1)^3$
$k(k-1)^2$

$$k(k-1)^4 - 2k(k-1)^3 + 2k(k-1)^2 - k(k-1)$$

1

1 1

1 2 1

1 3 3 1

1 4 6 4 1

$$k^5 - 4k^4 + 6k^3 - 4k^2 + k$$

$$-2k^4 + 6k^3 - 6k^2 + 2k$$

$$+2k^3 - 4k^2 + 2k$$

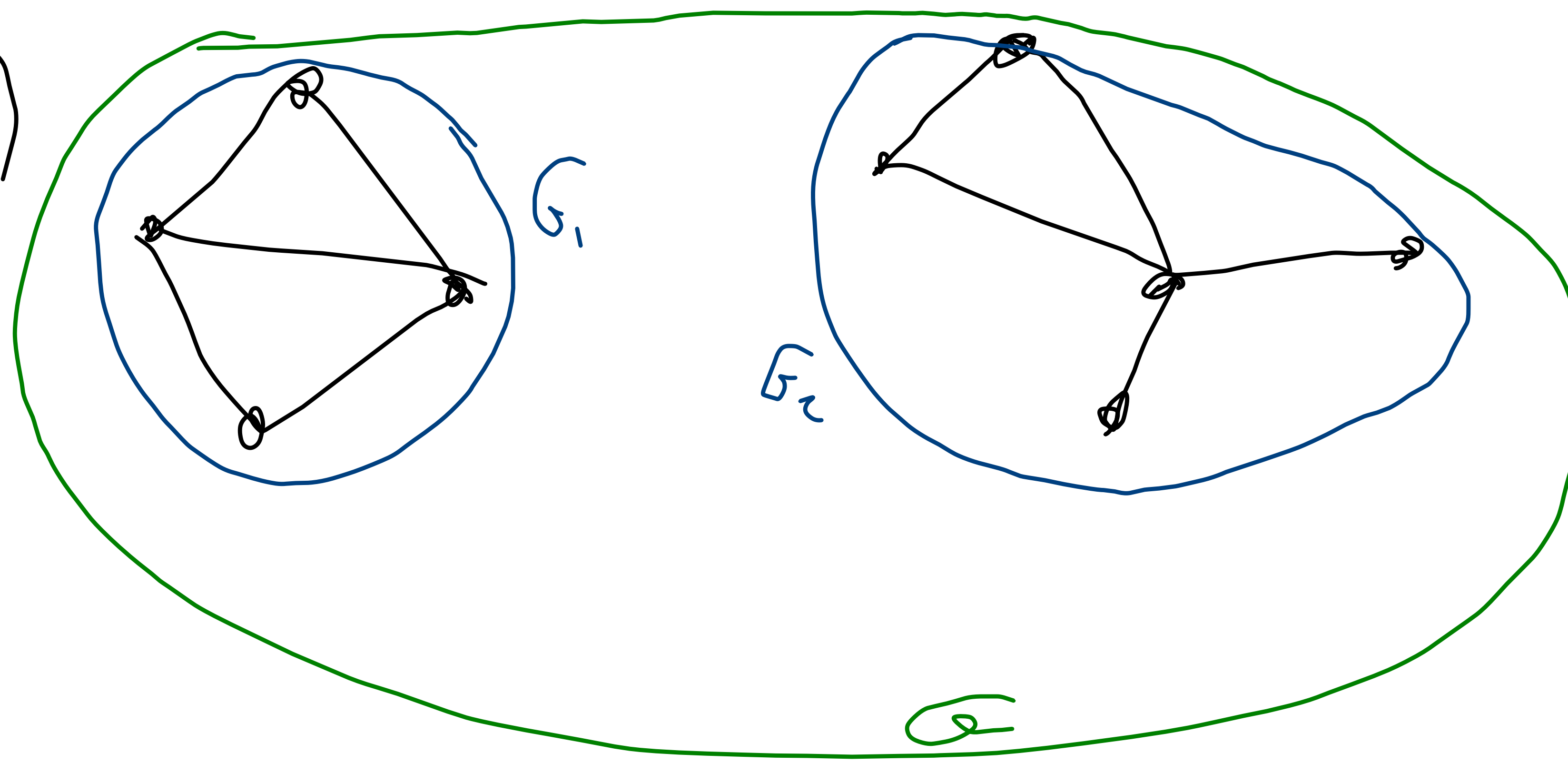
$$-k^2 + k$$

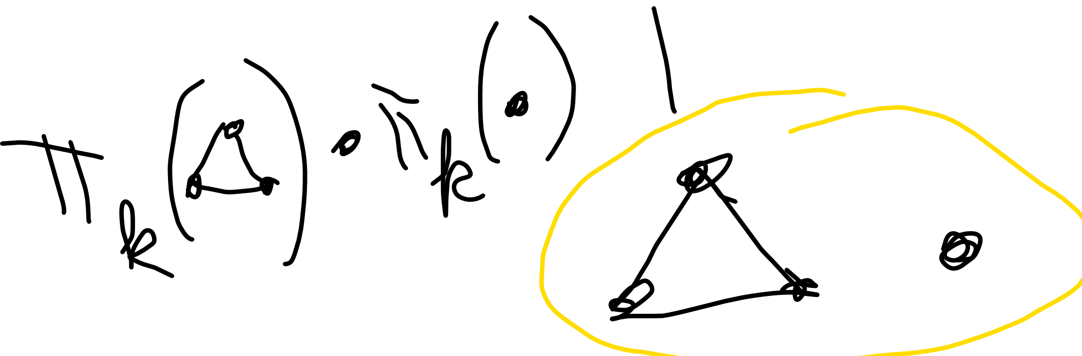
$$k^5 - 6k^4 + 14k^3 - 15k^2 + 6k$$

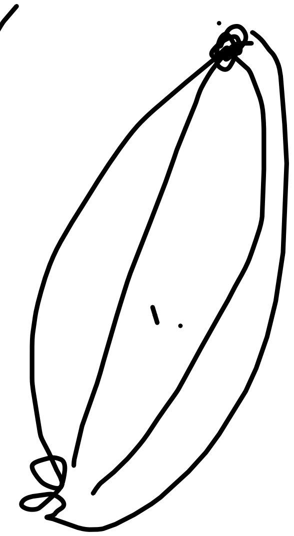
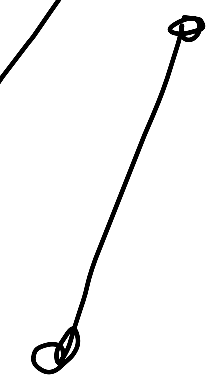
+ − + − +

1 6 14 15 6

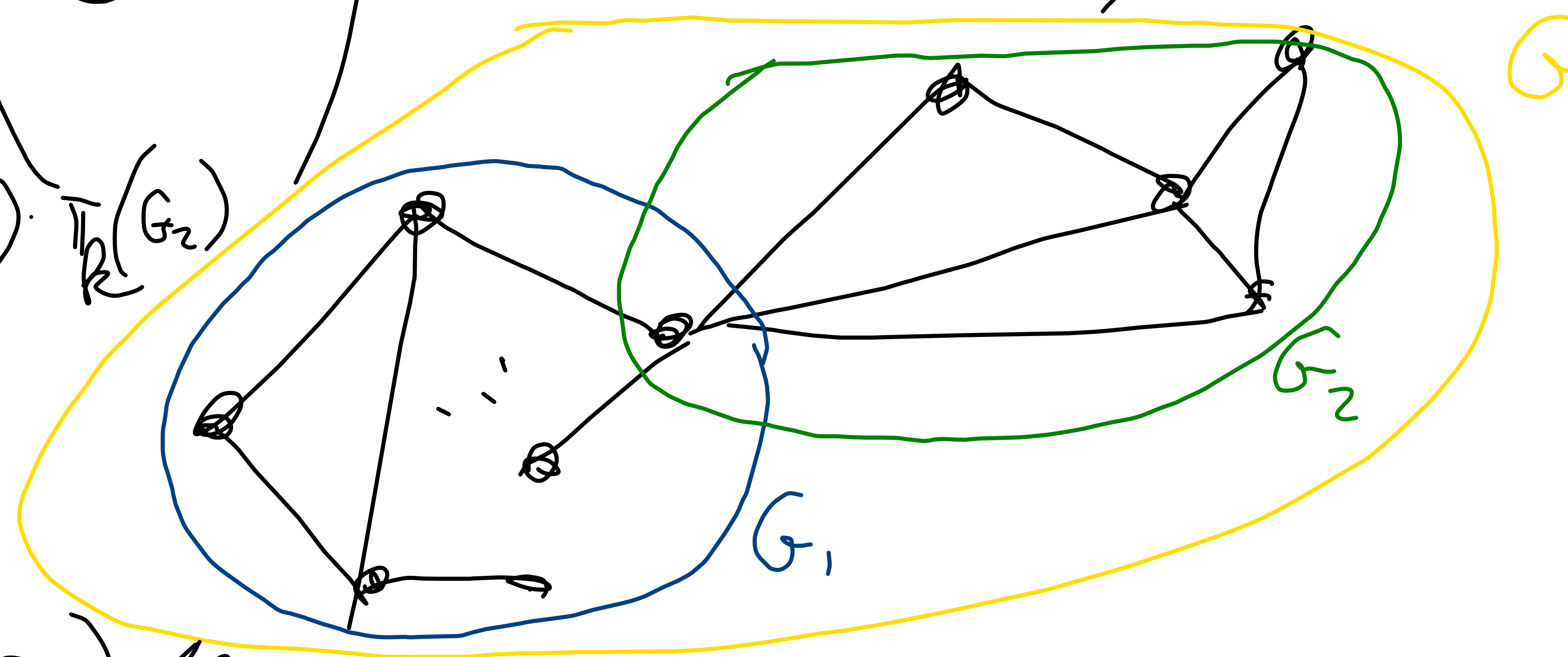
$$\pi_k(G) = \pi_k(G_1) \cdot \pi_k(G_2)$$



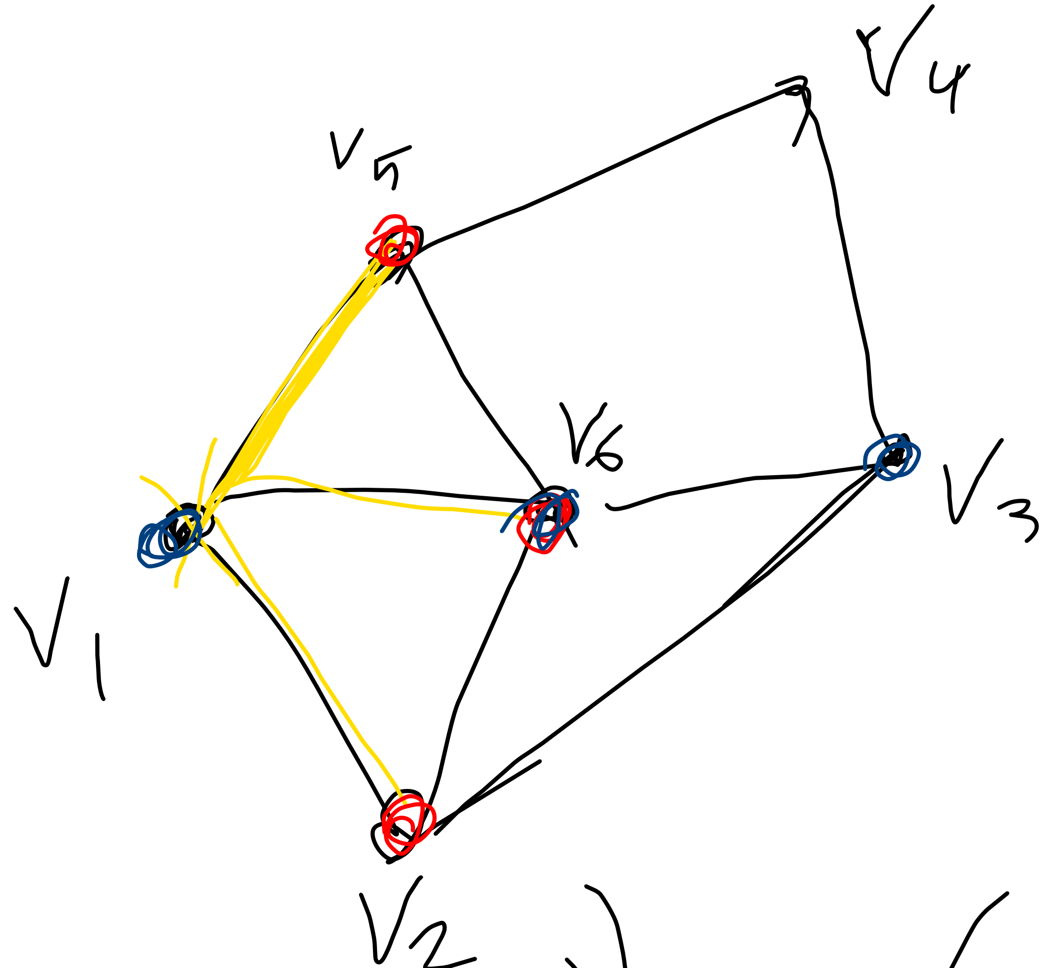


$\Pi_k \Bigg($  $\Bigg) = \Pi_k \Bigg($  $\Bigg)$

$$\Pi_k(G)\,\Pi_k(\bullet) = \Pi_k(G_1)\cdot\Pi_k(G_2)$$



$$\Pi_k(G) =$$
$$= \Pi_k(G_1)\cdot\Pi_k(G_2) \,/\!/\, k$$



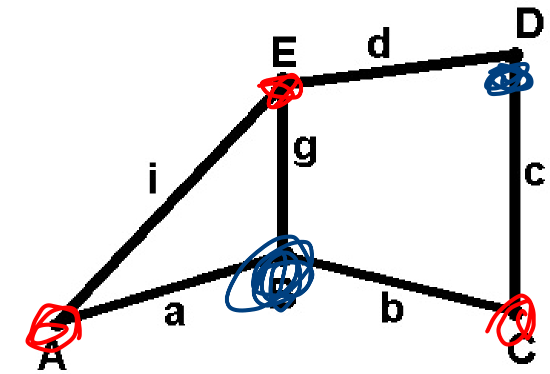
$\big(V_1$ OR $(V_2$ AND V_6 AND $V_5)\big)$ AND $\big(V_2$ OR $(V_1$ AND V_6 AND $V_3)\big)$

AND

u	v	$u \circ v$	$u \circ v \circ u$
T	T	T	T
T	F	F	F
F	T	F	F
F	F	F	F

x	y	$x \cdot y$	$x + x \cdot y$
T	T	T	T
T	F	F	T
F	T	F	F
F	F	F	F

$$(A+BE)(B+ACE)(C+BD)(D+CE)(E+ABD)=$$



$$=(AB+\cancel{A}ACE+BE\cancel{B}+\cancel{BEACE})(\quad)=$$

$$=(AB+ACE+BE)(C+BD)(\ldots=$$

$$=(ABC+AB\cancel{B}D+ACE\cancel{C}+\cancel{ACEBD}+BEC+\cancel{B}EBD)\cdot\ldots=$$

$$=(ABC+ABD+ACE+BEC+BED)(D+CE)(\ldots=$$

$$=(\cancel{ABCD}+\cancel{ABCCE}+ABD\cancel{D}+\cancel{ABDCE}+\cancel{ACED}+ACE\cancel{C}\cancel{E}+\cancel{BCED}+BCE\cancel{C}\cancel{E}+$$
$$+BDE\cancel{D}+\cancel{BDECE})(\quad=$$

$$=(ABD+ACE+BCE+BDE)(E+ABD)=$$

$$=\cancel{ABDE}+ABD\cancel{A}\cancel{B}\cancel{D}+ACE\cancel{E}+\cancel{ACEABD}+BCE\cancel{E}+\cancel{BCEABD}+BDE\cancel{E}+\cancel{BDEABD}=$$

$$=ACE+BCE+BDE$$

$\{A,C,E\}$ $\{B,C,E\}$ $\{B,D,E\}$ $\{B,D\}$ $\{A,D\}$ $\{A,C\}$