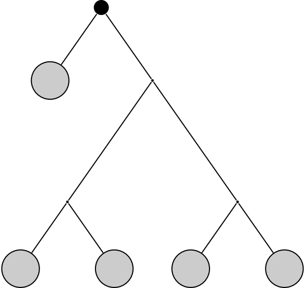
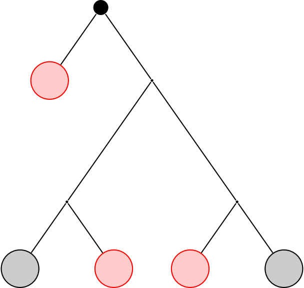
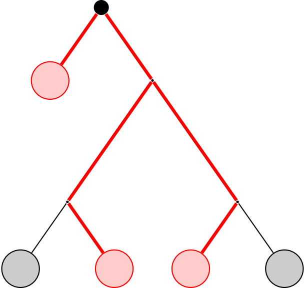
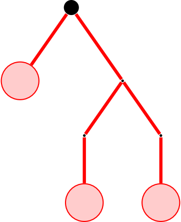
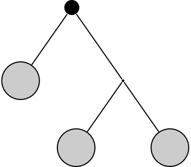
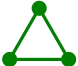
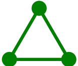


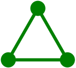


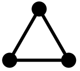
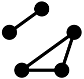


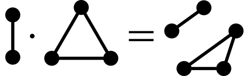




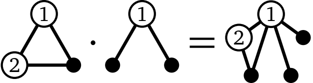
ex (  ;  ) $:= \max_{\mathcal{G}} \Big\{ \phi \Big($  $\Big) : \phi \Big($  $\Big) = 0 \Big\}$.

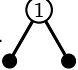
$\mathrm{ex}\Big($  $;$  $\Big) \geq \frac{1}{2}$,

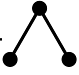
$\phi\Big($  $\Big)\,\phi\Big($  $\Big) = \phi\Big($  $\Big).$

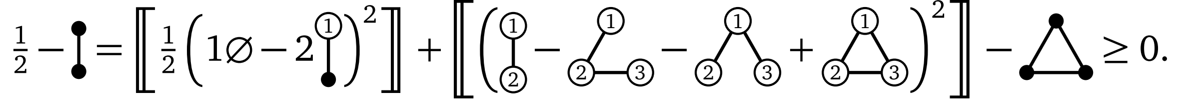


,



$\Big(1\varnothing - 2$  $\Big)^2 = \varnothing - 4$  $+\,4$  $\geq 0.$

$\Big[\!\!\Big[\Big(1\varnothing - 2$  $\Big)^2\Big]\!\!\Big] = \varnothing - 4$  $+\, 4$  $\geq 0.$



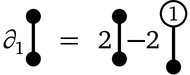
$$[\![f^2]\!] = \langle cc^\top, [\![\mathcal{F}\mathcal{F}^\top]\!]\rangle$$

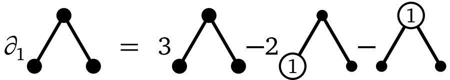
$$\langle M, [\![ \mathcal{F}\mathcal{F}^\top ]\!] \rangle$$

$H -$  $^{|E(H)|} \geq 0.$

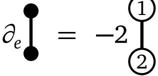
$$\nabla_{v} f(x) = \lim_{h\to 0} \frac{f(x+hv)-f(x)}{h}$$

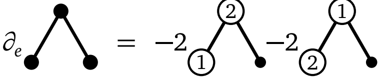
$$\partial_{v} H := \lim_{i\to\infty} \frac{(H \text{ density in } (G_i - v)) - (H \text{ density in } G_i)}{i^{-1}}$$

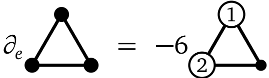


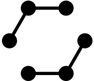
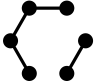
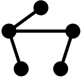


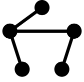
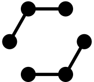
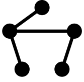
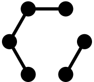
$$\partial_e H := \lim_{i \to \infty} \frac{(H \text{ density in } (G_i - e)) - (H \text{ density in } G_i)}{i^{-2}}$$

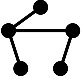
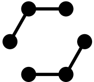
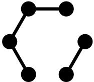

∂e
= −2
1
2

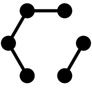
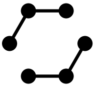
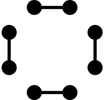

∂e
= −2
2
1
−2
1
2


∂e
= −6
1
2

$\left[\!\!\left[ \begin{smallmatrix}①\\ | \\ ③\end{smallmatrix}\, \partial_{\mathrm{swap}}(P_3 - e^3) \right]\!\!\right] =$  $+$  $-\,2$  $\geq 0$

But  $-$  $= \mathrm{SOS} \geq 0$ and  $-$  $= \mathrm{SOS} \geq 0$.

Thus  =  = .

This proves  =  ≥ .