boldsymbol needs amssymb

$$\alpha(\boldsymbol{\theta}) = \frac{1}{\pi} \int d^2 \theta' \; \kappa(\boldsymbol{\theta}') \; \frac{\boldsymbol{\theta} - \boldsymbol{\theta'}}{|\boldsymbol{\theta} - \boldsymbol{\theta'}|^2} \; . \tag{1}$$

pmb needs nothing

$$\alpha(\theta) = \frac{1}{\pi} \int d^2 \theta' \, \kappa(\theta') \, \frac{\theta - \theta'}{|\theta - \theta'|^2} \,. \tag{2}$$

bm needs bm

$$\alpha(\boldsymbol{\theta}) = \frac{1}{\pi} \int d^2 \theta' \; \kappa(\boldsymbol{\theta}') \; \frac{\boldsymbol{\theta} - \boldsymbol{\theta}'}{|\boldsymbol{\theta} - \boldsymbol{\theta}'|^2} \; . \tag{3}$$

pmb needs amsbsy

$$\alpha(\boldsymbol{\theta}) = \frac{1}{\pi} \int d^2 \theta' \ \kappa(\boldsymbol{\theta}') \ \frac{\boldsymbol{\theta} - \boldsymbol{\theta}'}{|\boldsymbol{\theta} - \boldsymbol{\theta}'|^2} \ . \tag{4}$$

mathbold needs fixmath

$$\alpha(\theta) = \frac{1}{\pi} \int d^2\theta' \ \kappa(\theta') \ \frac{\theta - \theta'}{|\theta - \theta'|^2} \ . \tag{5}$$