

Alan Sola (Stockholm University)
Spring 2022: Research Member
Analysis and Geometry of Random Spaces

- ▶ *Complex analysis and probability*: $ALE(\alpha, \eta)$, $HL(\alpha)$.
- ▶ *Harmonic analysis*: Littlewood-Paley theory, Orlicz spaces.
- ▶ *Operator theory*: shifts on Bergman/Dirichlet spaces.
- ▶ *Several complex variables*:
stable polynomials, boundary behavior of rational functions.

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$$(a) \frac{2 - z_1 - z_2}{2 - z_1 - z_2} \quad (b) \frac{1 - z_1}{2 - z_1 - z_2}$$

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Answer: $2 - z_1 - z_2$ and its *reflection* $2z_1z_2 - z_1 - z_2$ generate the ideal of admissible numerators. (Num in (d) is $\frac{1}{2}(p + \tilde{p})$.)

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General case for $d = 2$: Corresponding statement not true but Kelly Bickel-Greg Knese-James Pascoe-AS. (2021) make *conjecture* (and prove true in many situations).

General case for $d \geq 3$: Probably hard.