Japense Theorem and further conversation started by a trainee teacher in Twitter

phi_delta
@_phi_delta

Folgen

@Cshearer41 this came up in our 5th grade, maybe sth for you:

Take a polygon, vertices all on a circle. No matter how you split the polygon into triangles, if you inscribe circles into the the triangles, the sum of their radii will always be the same.

We have no idea why.

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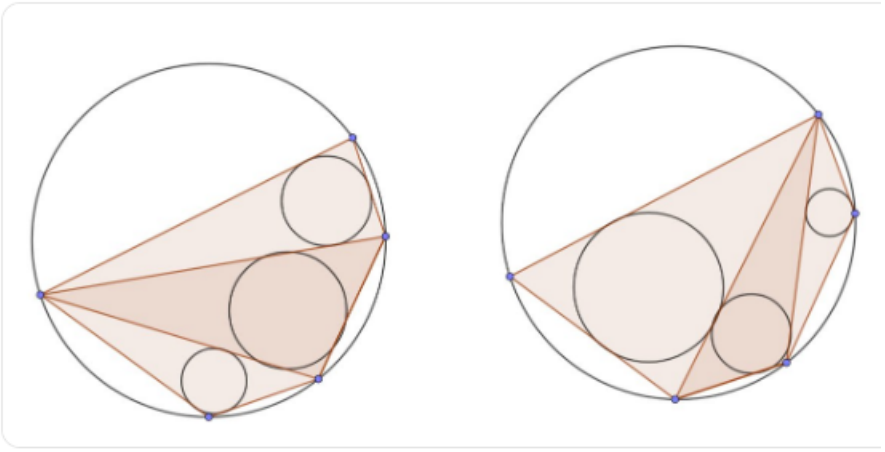

14:16 - 3. Dez. 2018

5 Retweets **28** „Gefällt mir"-Angaben

phi_delta
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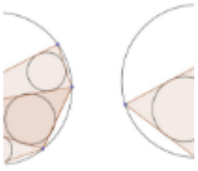
.@3blue1brown just found out about you, maybe this is something you like:



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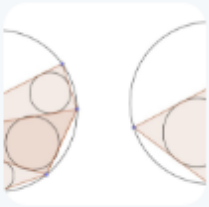
08:36 - 14. Jan. 2019

phi_delta @_phi_delta · 14. Jan.

.@3blue1brown just found out about you, maybe this is something you like:



phi_delta @_phi_delta

@Cshearer41 this came up in our 5th grade, maybe sth for you:

Take a polygon, vertices all on a circle. No matter how...

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2 3 32

Mats Vermeeren

@mathmats

Folgen

Antwort an @_phi_delta @3blue1brown

en.wikipedia.org/wiki/Japanese_ ...

Unfortunately, none of the proofs look anywhere as nice as the statement itself 🤔

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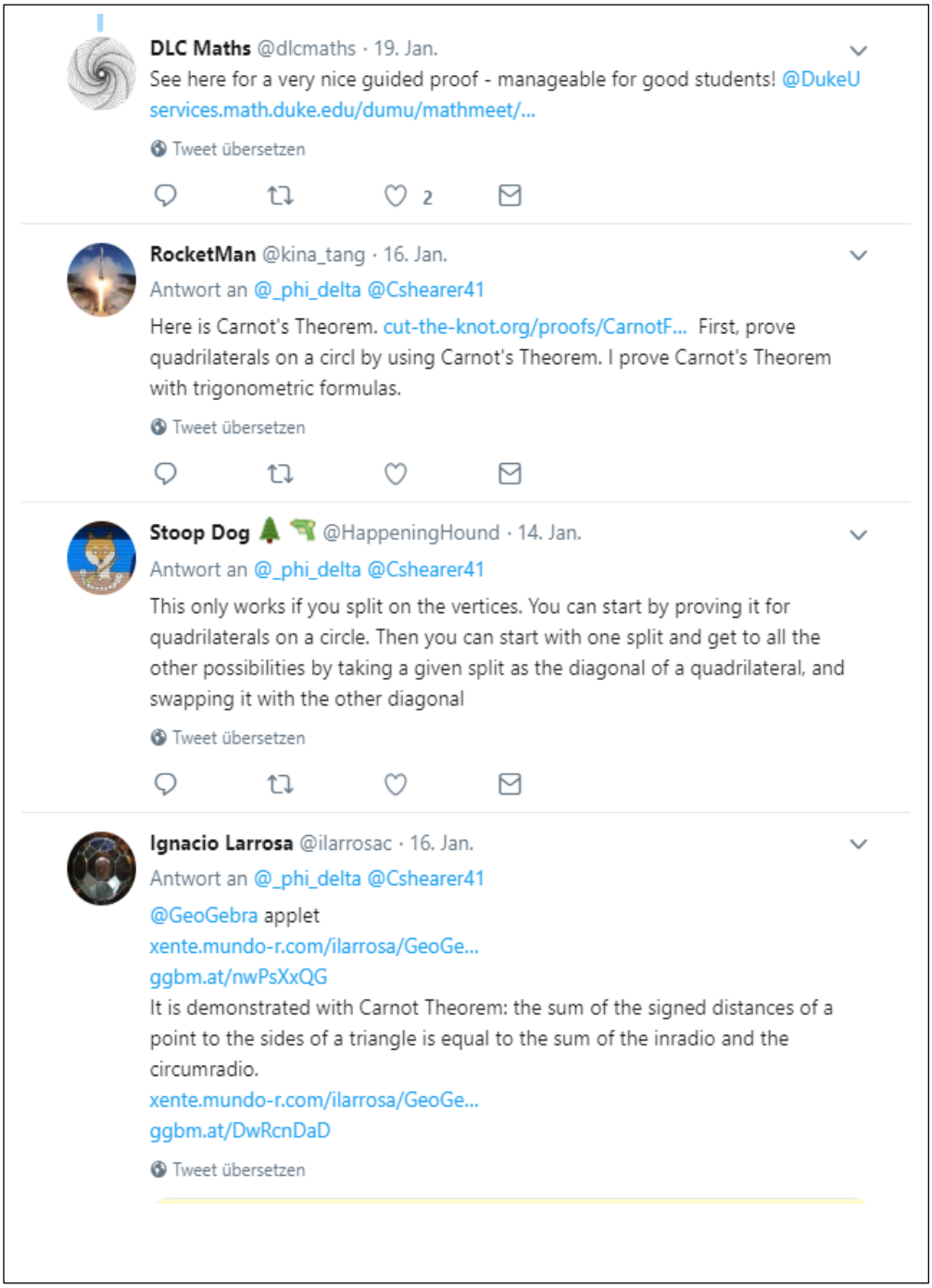
14:08 - 14. Jan. 2019

https://en.wikipedia.org/wiki/Japanese_theorem_for_cyclic_polygons

http://www.xente.mundo-r.com/ilarrosa/GeoGebra/Teorema_Japones.html

https://services.math.duke.edu/dumu/mathmeet/prob/2008_power.pdf



DLC Maths @dlcmaths · 19. Jan.
See here for a very nice guided proof - manageable for good students! @DukeU
services.math.duke.edu/dumu/mathmeet/...
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2

RocketMan @kina_tang · 16. Jan.
Antwort an @_phi_delta @Cshearer41
Here is Carnot's Theorem. cut-the-knot.org/proofs/CarnotF... First, prove quadrilaterals on a circl by using Carnot's Theorem. I prove Carnot's Theorem with trigonometric formulas.
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Stoop Dog @HappeningHound · 14. Jan.
Antwort an @_phi_delta @Cshearer41
This only works if you split on the vertices. You can start by proving it for quadrilaterals on a circle. Then you can start with one split and get to all the other possibilities by taking a given split as the diagonal of a quadrilateral, and swapping it with the other diagonal
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Ignacio Larrosa @ilarrosac · 16. Jan.
Antwort an @_phi_delta @Cshearer41
@GeoGebra applet
xente.mundo-r.com/ilarrosa/GeoGe...
ggbm.at/nwPsXxQG
It is demonstrated with Carnot Theorem: the sum of the signed distances of a point to the sides of a triangle is equal to the sum of the inradio and the circumradio.
xente.mundo-r.com/ilarrosa/GeoGe...
ggbm.at/DwRcnDaD
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