CMCFN

California Math Council
to the Far North

2018 CMCFN Math Conference
Keynote Speaker: Shalek Chappill-Nichols
Truth Education Consulting

Saturday, October 13, 2018
McKinleyville Middle School
2275 McKinleyville Ave.
McKinleyville, CA 95519

Registration & Breakfast	8:15-8:40
Introductions: Gwen Neu	8:45-9:00
Keynote: Shalek Chappill-Nichols	9:00-10:00

Day at a Glance:

	Keynote 9:00-10:00			
Location	**Breakout A** **10:15-11:20**	**Breakout B** **11:30-12:35**	**Lunch** **12:40-1:30**	**Breakout C** **1:40-2:45**
Room 2	**TK-2** **Come Play!** **Share! Engage!** Tami Matsumoto (Math), Darius Kalvaitis (ECE), & CR Students	**3rd - 8th** **Place Value - An Arts Integration Approach** Bill Funkhouser Create Humboldt	*Eat and Mingle!* Everyday Hero Award - Nominate an attending colleague and see them win a prize.	**3rd - 12th** **Field Guide to Math** Ken Pinkerton Humboldt Math Festival/Redwood Discovery Museum
Room 12	**3-8** **Maker's Fantastic Factory** Shalek Chappill-Nichols	**TK - 2** **Maker's Fantastic Factory** Shalek Chappill-Nichols		**4-6** **BreakoutEDU** Victoria Schoonover Del Norte County Office of Education
Room 17	**6-12** **Bootstrap Algebra: Coding Video Games with Algebra** Ed Campos	**K-12** **360 Math** Ed Campos		**TK - 2** **Math Talks for the Younger Set** Gwen Neu
Cafeteria	2:50 - 3:15 **End of Conference Gathering:** *Evaluations* *Everyday Hero* *Raffles* *HSU Units*			

Description of Sessions

Presenter/ School	Room	Grade Level	Breakout A: 10:15-11:20
Tami Matsumoto (Math), Darius Kalvaitis (ECE), & CR Students College of the Redwoods	**Room 2**	**TK-2**	***Come Play! Share! Engage!*** *How can we engage TK-2 children/students to learn mathematics? Come participate in math activities and games for the classroom that children can play with each other, and with their families at home. Let's first play and then discuss learning progressions of math games & activities, how to create a community of excited learners in our classrooms, how to creatively engage family members, and how to create our own community of educators! We will address Number Sense, Classification and Patterns, Geometry and Measurement.*
Shalek Chappill-Nichols Truth Consulting	**Room 12**	**3-8**	***Maker's Fantastic Factory*** *How do we prepare students to be innovative thinkers? In Makers Amazing Factory, we will explore ways young students can solve real world problems in a fun and mindful way. We will use math concepts, design challenges, and project based learning to explore creative 21st century skills and create an environment to support maker learning. No technology necessary.*
Ed Campos Brown University	**Room 17**	**6-12**	***Bootstrap Algebra: Coding Video Games with Algebra*** *Teach your students to code and reinforce their Algebra skills using this FREE Common Core aligned curriculum that runs on a Chromebook! Students write, compile, and troubleshoot their code with WeScheme, a cloud based programming environment. With Bootstrap, your students will program their own video game using code and Algebra (order of operations, linear equations, piecewise functions, compound inequalities, and distance formula). In this session, we'll focus on the concepts of Order of Operations, Functions, Domain/Range, and Composite Functions.*

Presenter/ School	Room	Grade Level	Breakout B: 11:30-12:35
Bill Funkhouser Create Humboldt	**Room 2**	**3-8**	***Place Value - An Arts Integration Approach*** *Explore a visual representation of place value with the paintings of Kandinsky and others. Students will gain a deep understanding of our decimal system by translating each place value into a geometric area representation. Modifications for 3rd through 8th grade will be presented. This is a hands-on art making session.*
Shalek Chappill-Nichols Truth Consulting	**Room 12**	**TK-2**	***Maker's Fantastic Factory*** *How do we prepare students to be innovative thinkers? In Makers Amazing Factory, we will explore ways young students can solve real world problems in a fun and mindful way. We will use math concepts, design challenges, and project based learning to explore creative 21st century skills and create an environment to support maker learning. No technology necessary.*
Ed Campos Brown University	**Room 17**	**K-12**	***360 Math*** *Flip the script in the math class by putting your students center stage with 360 degree math. Get your students up, performing, solving, and persevering by livening up the environment with whiteboard surfaces, music cues, visible random groupings, and strategic questioning. Use an iPad and Airserver to untether yourself from your doc cam and fully mobilize yourself in the classroom. Attendees will experience what it's like teach and learn in a 360 degree math class and leave with the resources (inventory, implementation, tech integration) to go back to their sites and have their classrooms join the 360 Math revolution.*

Please take a moment to complete our evaluation at *https://sites.google.com/site/cmcfnconfeval/*: or go to www.cmcfn.com and use the 2018 Conference Evaluation link.

Lunch 12:40-1:30 Mingle with friends while enjoying Cassaro's catered lunch.

Please nominate a colleague for the "**Everyday Hero**" award. In one sentence, tell us how that person is a heroic math teacher. We will randomly select a winner at 2:00 pm, (must be present to collect the prize). Link at *cmcfn.com*.

| Presenter/ School	Room	Grade Level	Breakout C: 1:40-2:45
Ken Pinkerton Humboldt Math Festival/ Redwood Discovery Museum	Room 2	3-12	***Field Guide to Math*** *Did you know Pringles are a hyperbolic paraboloid, water fountains make parabolas, fire hydrants have five sided nuts, tennis ball cans show an approximation of pi, and the recycle symbol comes from a mobius strip? The field guide project encourages and enables students of all ages to become "citizen mathematicians,"to look at and discover the amazing applications and examples of math at their school and in their community. Find out how you and your students can be part of the project including a loaner camera program that you can use with your students.*
Victoria Schoonover Del Norte County Instructional Coach	Room 12	4-6	***BreakoutEDU*** *Be immersed in a game-based learning environment. Come experience the fun of solving math content-related clues to break into a locked box of treasures. Teachers of all grades can facilitate BreakoutEDU games; this workshop uses 4th-6th grade math as a demonstration.*
Gwen Neu Maple Creek School	Room 17	TK-2	**Math Talks for the Younger Set** *Would you like to get your primary students talking about math? Would you like them to try on the thinking of others and deepen their understanding? In this workshop, you will experience several math tasks designed to engage students in conversations while learning to see math as a puzzle to figure out with friends.*

Purchase a ½ Extended Education Unit: https://extended.humboldt.edu/ee/html/contractcredit/

- "Subject Area & Catalog": *Math x701*
- "Class Number, 5-digit code": *47104*
- "Instructor Last Name": *Ballinger*
- "Course Title/Topic": *CMC Far North Math Conference 2018*

CMCFN 2018 Puzzle Page - five classics from Martin Gardner

1. Make one cut (or draw a line)
(it needn't be straight) – to divide the figure into two identical parts.

Or for younger students… *can you cut this shape into two identical babies by making a cut with scissors?*
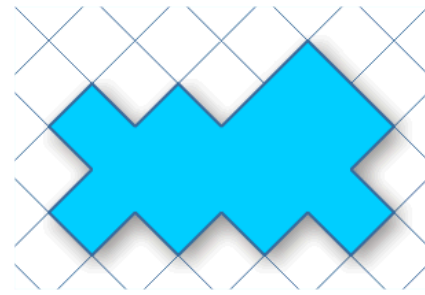
2. With one straight cut you can slice a pie into two pieces. A second cut will produce up to four pieces. What is the largest number of pieces for 3, 4, 5 or 6 vertical slices? What patterns do you notice?
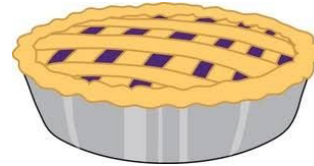
3. Two identical bolts are placed together so that their grooves intermesh as shown. If you move the bolts around each other as shown, will the heads
(a) move inward,
(b) move outward, or
(c) remain the same distance from each other?
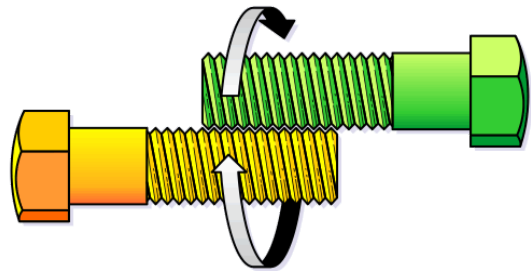
4. A logician vacationing in an unusual land finds herself on an island with two villages; one of liars and one of truth-tellers. Members of one village always tell the truth, members of the other always lie. She comes to a fork in a road and has to ask which branch she should take to reach a particular destination. She has no way of telling whether the villager is a truth-teller or a liar. The logician thinks a moment, then asks one question only. From the reply she knows which road to take. What question does she ask?

5. One of these spirals is formed with a single loop of rope. The other spiral is formed with two loops of rope. Can you tell which is which by using only your eyes?
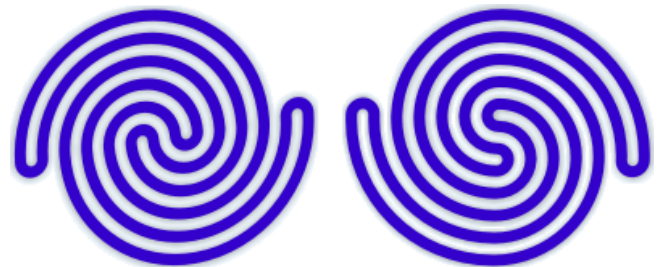
Answers: see page 8

THANK YOU
To this year's sponsors:
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> **Save the date! Next year's conference 10/12/19**
> *http://www.cmcfn.com*
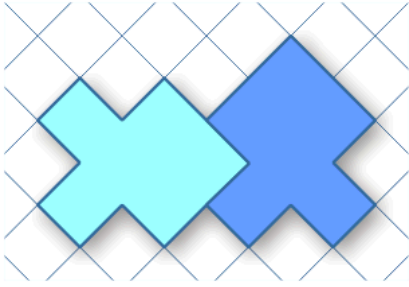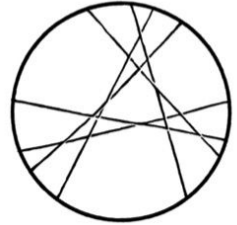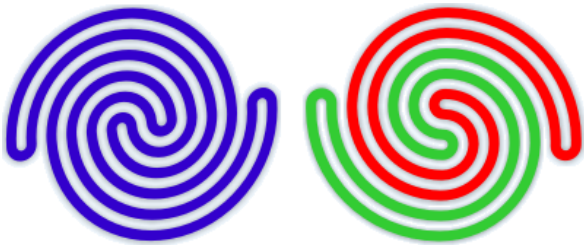
1.

2. One interesting pattern is that cut 1 added 1 piece to the whole pie, making two pieces, cut 2 added 2 more pieces (now four), cut 3 will add 3 pieces (now seven), cut 4 adds 4 pieces (eleven), cut 5 adds 5 pieces (sixteen), cut 6 adds 6 pieces for 22 as shown here...

3. The heads of the bolts move neither inward nor outward. The movements cancel each other out – like a person walking up an escalator at the same rate that it is moving down. If you get two bolts, or screws, and try it, it's fun to see.

4. The challenge here is to find a question that forces a liar to lie about a lie and hence tell the truth.
This works: point at one of the forks and ask the villager: "If I were to ask you if this road leads to my destination, would you say yes?" If the fork is the correct one, a liar would answer "no" to the question 'does this road lead to my destination?' and thus his answer to the direct question "would you say yes?" must be a (lying) "yes".
The truth-teller will also answer yes if the road is the correct one. Either way, an affirmative answer is the correct road and a 'no' answer is the incorrect road.

5.