Class Plan:

1. Number Talk
2. MathTube!
3. Coloring Links
4. Reflect and Set Goals

Pattern/Dot/Number Talks

Expectations and Purpose

- Build Number Sense!
- Many ways to see/do any problem.
- Communicate thinking clearly so others can understand.
- Try to understand other people's thinking.

Pattern/Dot/Number Talks

Procedure:

1. Place your hand on your heart.
2. When you have a strategy to solve, put up one finger.
3. If you have 2 strategies, put up 2 fingers.

Number Talk

Solve as many ways as you can!

Use paper, no calculator for now :)

$$12 \times 14$$

Grace

12
·14
48
+120
168

12(12)+2(12)

Josie

Jonah

10(14)+2(1

Augusta

14
+14
28

Shae

Calc.

$$12 \times 14$$

Sophia

$12(10)+12(4)$

Jill

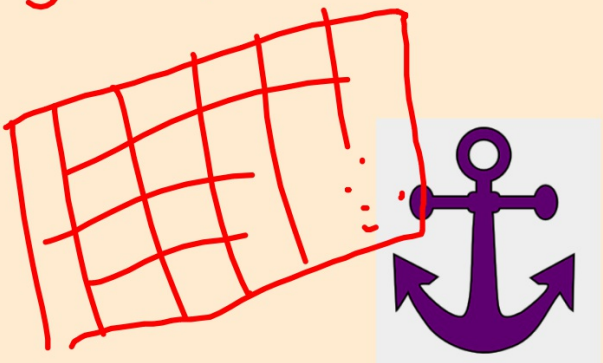
$7(8)(3)$

$\frac{14}{2}=7$

Toby

Ask someone

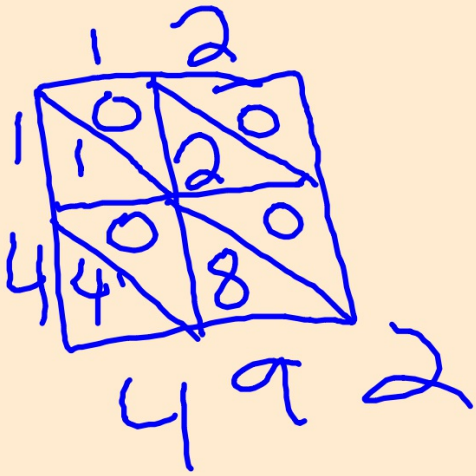
Jadyn



$$12 \times 14$$

Toby

$13^2 - 1$



$4 \quad 9 \quad 2$

$6(7)(4)$

Alex

Number Talk

Solve as many ways as you can!

Use paper, no calculator for now :)

$$12 \times 14$$

Isaac

$12 \times 12 + 12 \times 2$

$144 + 24 = 168$

$$\begin{array}{r} 12 \\ +\ 12 \\ +\ \vdots \\ \hline 168 \end{array}$$

Hannah

August

12×14

$12(15) - (12(1))$

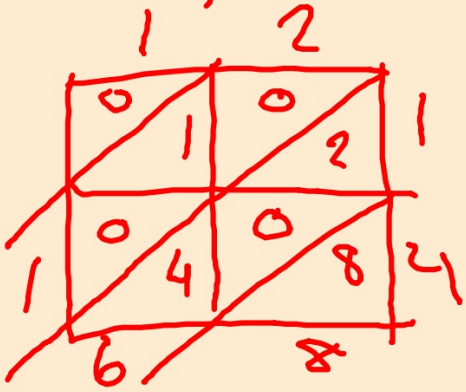
Sadie

100
40
20
8

168

12
14

Suhel;



$= 168$

12×14

Eli

$12 \times 10 + 12 \times 4 = 168$

Landon

$14(12)$

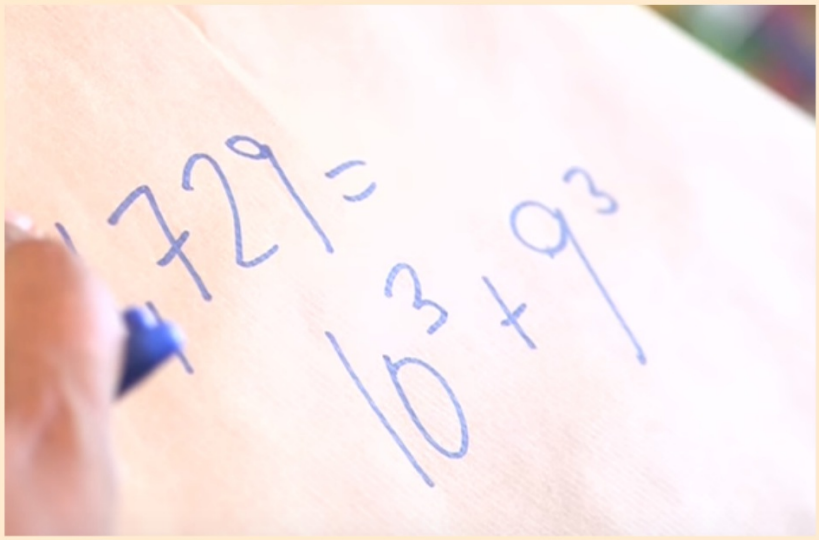
140
+ 28
168

14
× 12
28
+ 140
168

12 · 14
100
· 8
20
+ 40
168

MathTube! Taxi Cab Numbers

https://www.youtube.com/watch?v=bJDiZi9dqOg



Taxi Cab Numbers

Taxicab number

From Wikipedia, the free encyclopedia

In mathematics, the *n*th **taxicab number**, typically denoted Ta(*n*) or Taxicab(*n*), also called the *n*th **Hardy–Ramanujan number**, is defined as the smallest number that can be expressed as a sum of two *positive* cube numbers in *n* distinct ways. The most famous taxicab number is 1729 = Ta(2) = $1^3 + 12^3 = 9^3 + 10^3$.

The name is derived from a conversation in about 1919 involving mathematicians G. H. Hardy and Srinivasa Ramanujan. As told by Hardy:

> I remember once going to see him (Ramanujan) when he was lying ill at Putney. I had ridden in taxi-cab No. 1729, and remarked that the number seemed to be rather a dull one, and that I hoped it was not an unfavourable omen. "No", he replied, "it is a very interesting number; it is the smallest number expressible as the sum of two [positive] cubes in two different ways."[1][2]

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

MathTube!

Fermat's Last Theorem...

Fermat's Last theorem

There are no three positive integers x, y, and z for which

$$x^n + y^n = z^n$$

for any integer $n > 2$

MathTube!

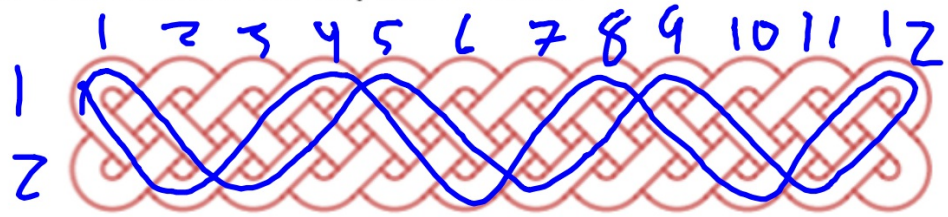
Best way to cut a cake?

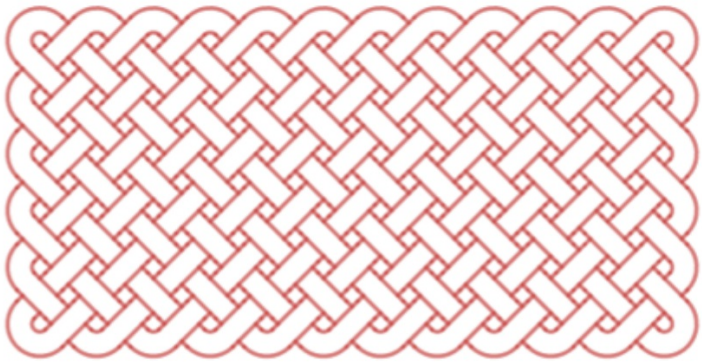
Knots, Links, & Learning

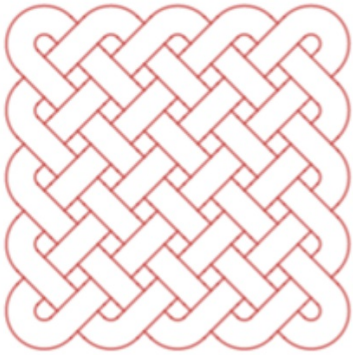
Do: Color Links!

Investigate: How do we know how many links there will be?

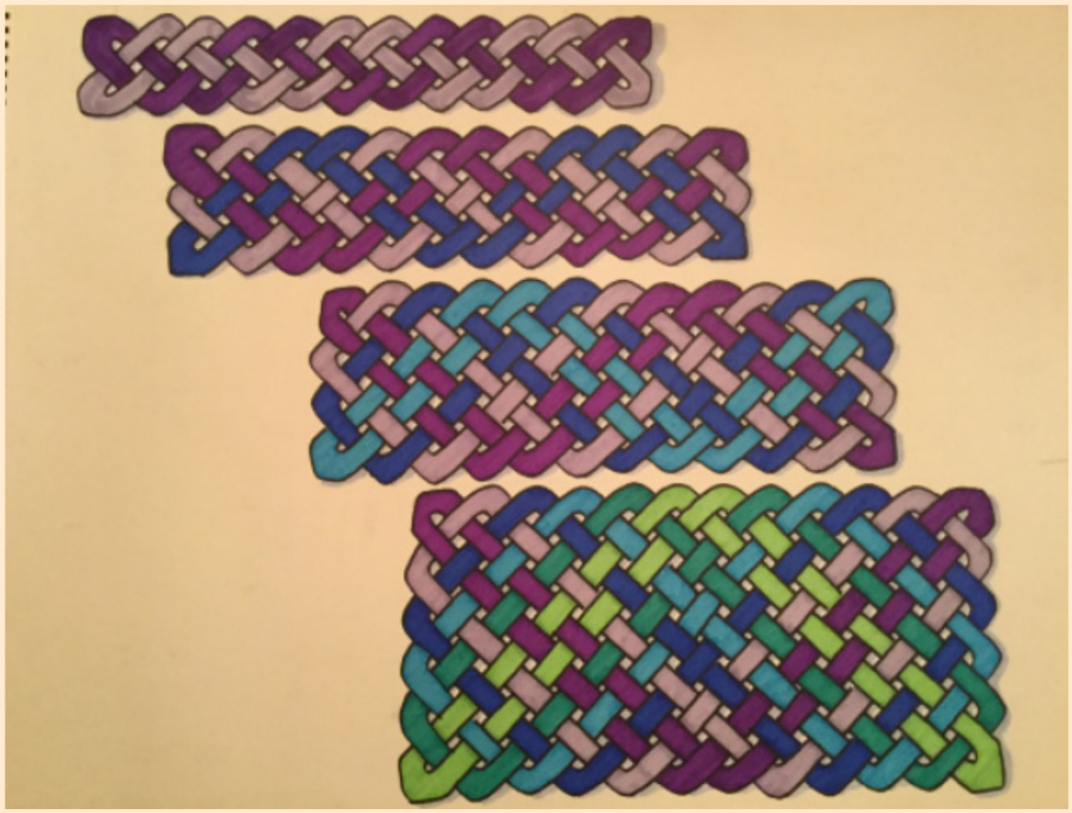
Coloring Links - *How do we know how many links there will be?*



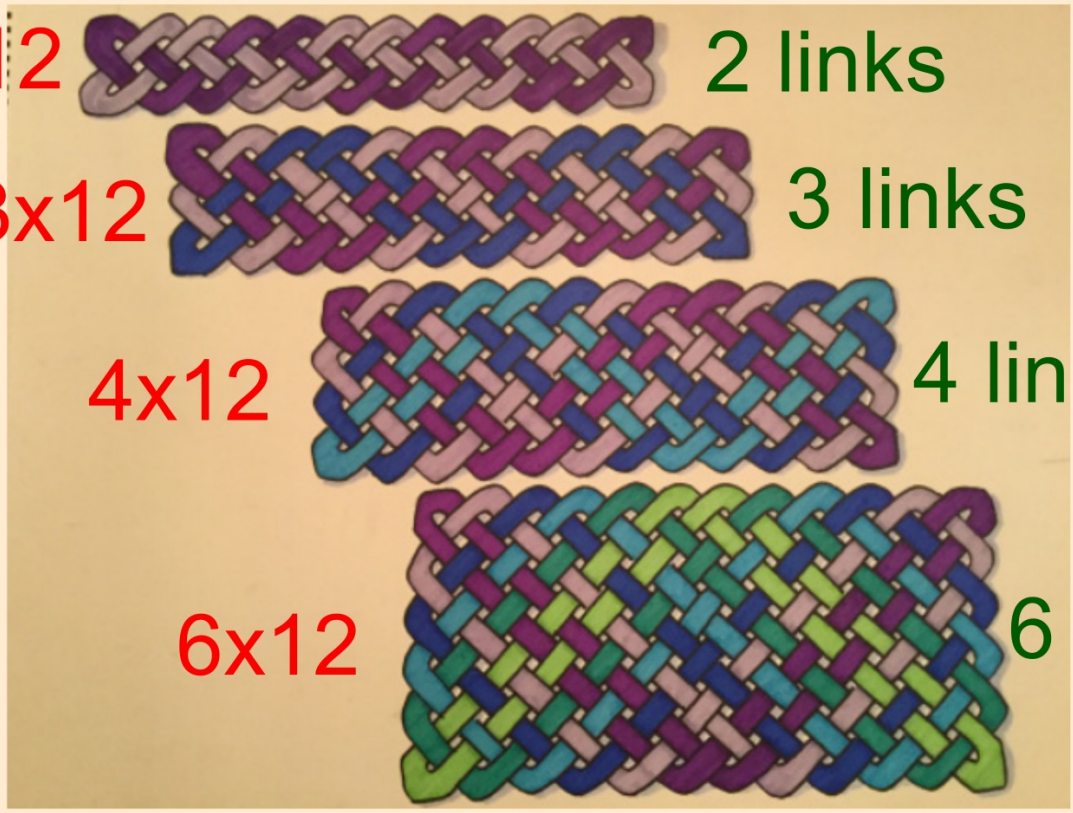




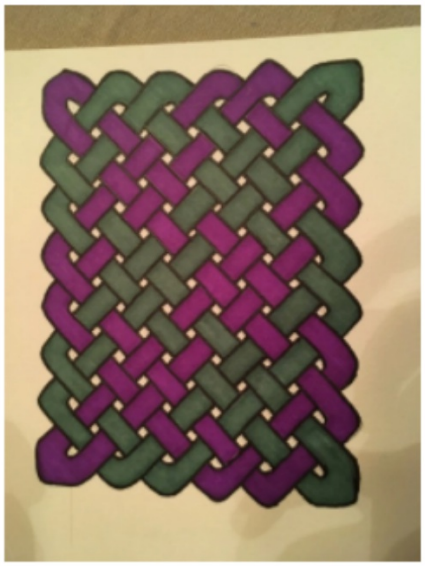
Based on Dimensions...How many Links?



Based on Dimensions...How many Links?

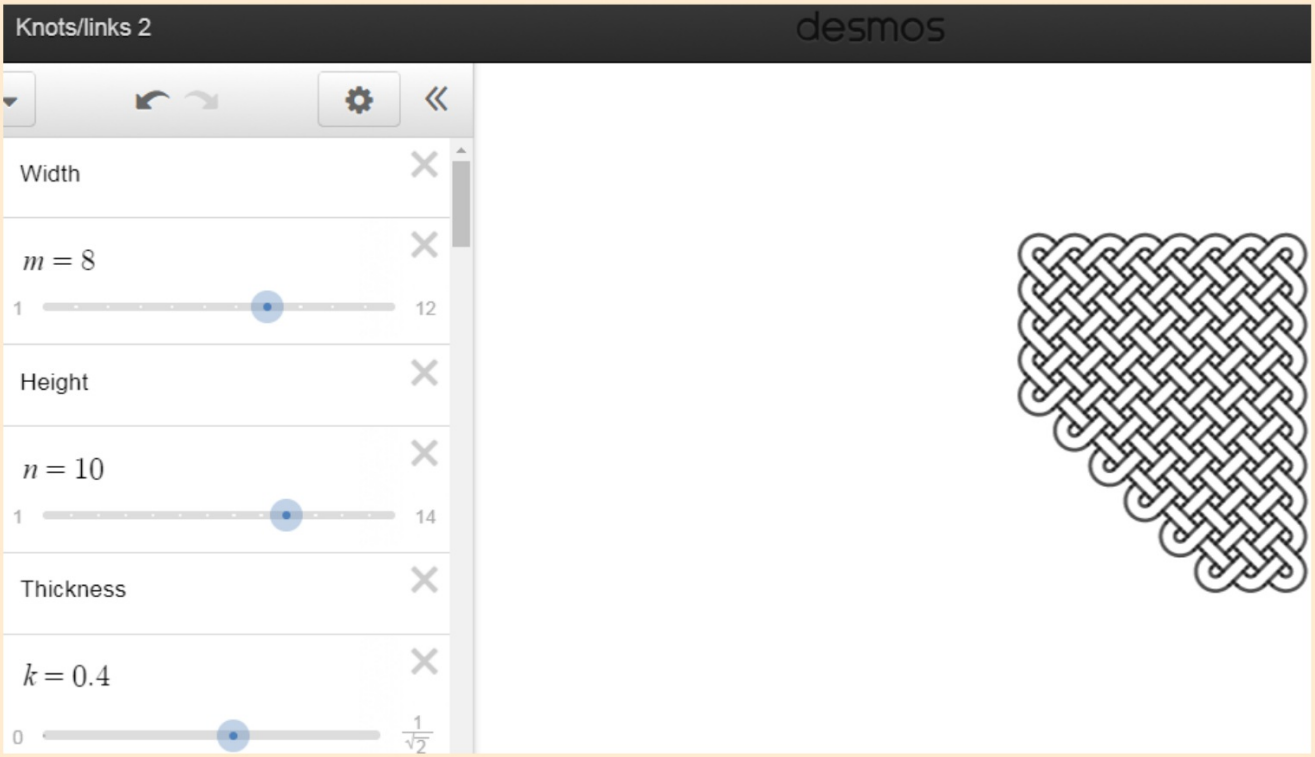


Based on Dimensions...How many Links?

5x5	6x3	8x6
		
5 links	3 links	2 links

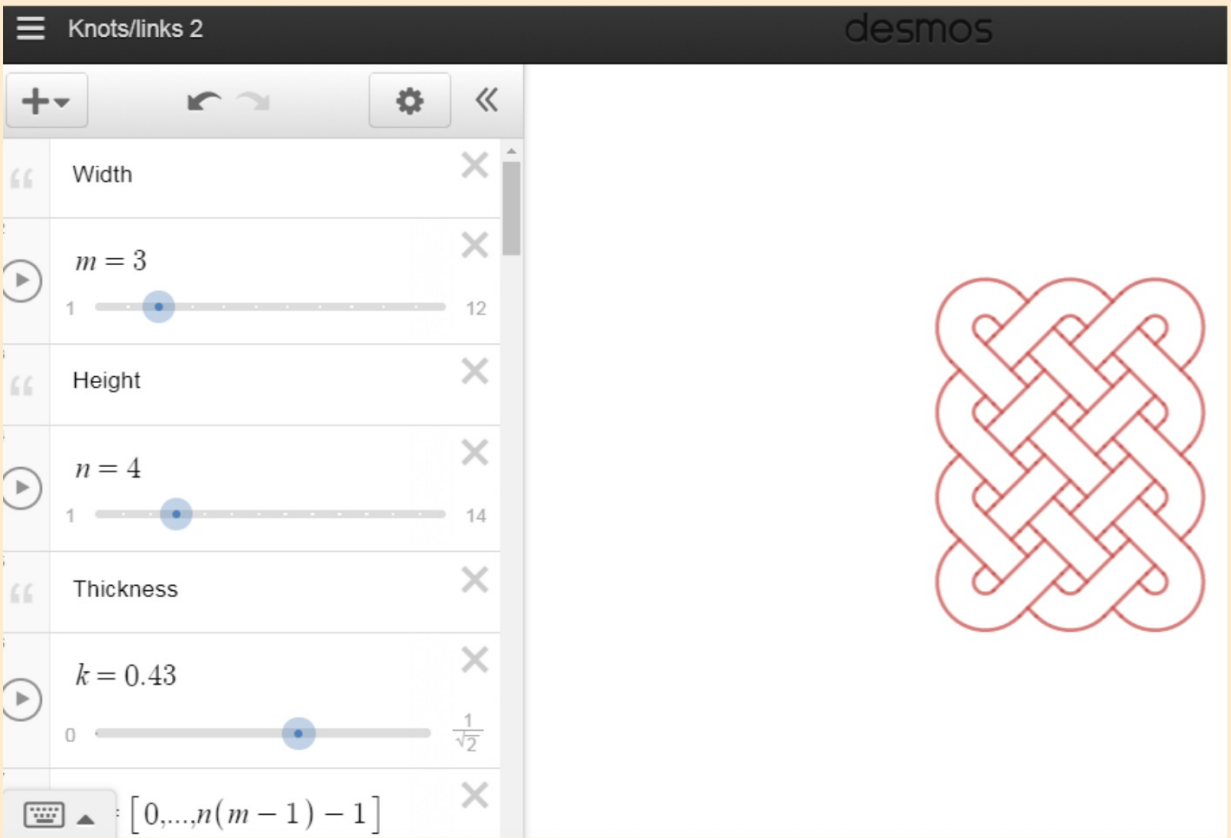
links with corners missing

https://www.desmos.com/calculator/dulkjukuqv



nxm grid

https://www.desmos.com/calculator/hzizduqvup



Exit Ticket:

Reflection on Quarter 1 Name_____

1) What is going ***well*** in math?

2) What would you like to ***improve*** upon?

3) What was **challenging** this quarter? Why so?

4) Set **one goal** for next quarter. What will you ***do*** to reach this goal?

Goal: _____

I will _____

_____

5) Other comments?

Exercises...

Continue coloring links!

Enjoy time with friends & family