

# Squares Circles and 5 Integers

Author: Jonathan Pearson

Version: 1

Date Started: 13/02/2021

Date First Version: 15/02/2021

Date Updated: 15/02/2021

Creative Commons: Attribution 4.0 International (CC BY 4.0)

Introduction .....	1
Framework .....	2
Population.....	2
Questions .....	2
Initial Conditions .....	2
Self reference.....	2
Initial Thoughts .....	2
12 points on the Circle .....	2
One to Five - quickly.....	5
The Grid.....	6
Listing the points from a Dancer’s Routine.....	7
How to get to point B by 1,2,3,4,5 .....	9
Permanent Little Bs’ .....	12
Paths and Probabilities .....	13
Diagonals.....	15
Recent Investigations.....	16

## Introduction

**Mobs** and **Mobthink** is on the rise and I seem to be unable to address it – with most of my friends and acquaintances – they seem stuck in some kind of mental haze – some certainty which makes them smug and defensive on hypothesis, debate and alternative thinking.

This has happened many times throughout human history.

Binary Thinking and certainty combined leads to these extremist idiotologies like feminism, communism, naziism, totalitarianism, authoritarianism, etc and all the related extremist utopia (equality) tyrannies which inflict abuse and violence on all humans. The smug, self satisfied idiots who support these idiotologies seem to lack something in their brains – they have failed to develop and we **seem to have taken it for granted** that humans would naturally develop and remember important things.

## Framework

Humans, Development

## Population

Humans, Mobs, Individuals

## Questions

1. Is it possible to help humans learn to escape binary certainty so they can stop abusing people?
2. What can I demonstrate with simple numbers and shapes which might help?

## Initial Conditions

Universe, Notice, Observe, Communication

## Self reference

Integers, squares, circles

## Initial Thoughts

This morning I dreamed of the 10 diameter circle inside a 10 diameter square (with 4 5 diameter squares inside it) and saw **8 points** where the circle is connected to the squares by exactly 5 integers 1,2,3,4,5.

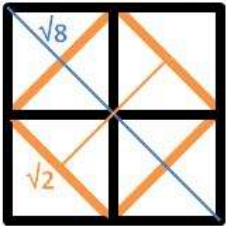
Can I explore this a make a little picture story to help people understand complexity a bit?

I am pre disposed to use 5 as my limit of complexity and I try to take people away from self (1) and binary(2) into 3 at least – 4 if they can and have a glimpse at 5.

## 12 points on the Circle

A little reminder and you can see my recent papers <https://humanistman.com/wp-content/uploads/2020/12/Integer-Ratio-Power-Law-Chaos.pdf> , <https://humanistman.com/wp-content/uploads/2021/01/Pell-Equation.pdf>

**Initial self reference & recursion**  
**1 square gives us the right angle**



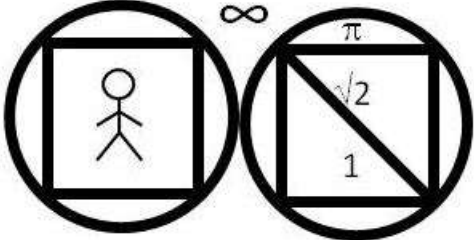
1 Squared=1 ( $\infty$ )  
Square Root 1 = 1 ( $\infty$ )  
Diagonal of 1 square =  $\sqrt{2}$  ( $\pi\infty$ )  
 $\sqrt{2}$  squared = 2  
2 squared=4  
Square Root 2 =  $\sqrt{2}$  (recursion)  
Square root of 4=2  
Diagonal of 2 square =  $\sqrt{8}$   
 $2 * \sqrt{2} = \sqrt{8} = \sqrt{2} * \sqrt{2} * \sqrt{2}$





Many of my documents have show the human inside a square which we conceptually construct inside a circle. What I am now doing is switching the frame and focus around so we focus instead on the square frame and see where we and circles fit on that framework.

A little “teaser” questions to get you interested – to start on the journey to escape binary thinking and binary certainty is **“How do we know when we are at the middle of the circle?”**

 <p>Jonathan Pearson 2020 Humanistman cc by 4.0</p>	<p>There is no order implied here. Which structure came first?</p> <p>What ever that means.</p> <p>Was binary first?</p> <p>Was direction first?</p> <p>What about choice?</p>
--	--

## One to Five - quickly

I covered much of this previously in many of my other documents and I will not repeat it here.

<https://humanistman.com/wp-content/uploads/2020/04/16-Humanism-%E2%80%93-Complexity-Structure.pdf> , <https://humanistman.com/wp-content/uploads/2020/05/Questioning-Numbers.pdf> ,  
<https://humanistman.com/wp-content/uploads/2020/06/Evaluating-Humanity.pdf> ,  
<https://humanistman.com/wp-content/uploads/2020/06/Binary-Groupthink.pdf> ,

<https://humanistman.com/wp-content/uploads/2020/08/Equality-Diversity-Measurement-Notice.pdf>

One - is/not, two – other (lists of twos – binary, groups, hierarchy), three – space and more , four – really complex, five beyond comprehension.

Binary thinking allows lists of twos – female – not female, Male and not male, good/bad, etc.

These are ordered and sorted in to long lists of binary concepts and can be brought forward in different sequence depending of how binary thinkers feel or for different purposes. This is how binary thinkers live their experiences – this is how they see their lives – constant binary. Long lists of twos arranged in hierarchies.

For example when female presidential candidates say things like *“women are the biggest victims of war”* (Hillary Clinton) – they are rationalizing it by selecting binary ideas and putting one binary idea ahead of another binary idea.

For example victim/not victim is explained by going through long lists of grouped and attached binary concepts. Victim/Perpetrator – men are perpetrators (so men cannot be victims as well as perpetrators – that would break the binary rule), men cause wars, people die in wars, women die in wars – hence women are the biggest victims of war – despite the fact that a greater percentage of men die in war and of just about everything else.

Binary thinkers double down on their view and they simply do not have any coherent brain structures with which to step beyond binary thinking. This is why we end up with so many binary certaintists who **ignore any facts, truth or exploration of issues** beyond their binary certainty. Feminists, women and weak minded men. **Groupthink and Mobthink is current government policy – everyone is described in group terms.**

I call it “**stepping over the bodies**” – looking for a binary certainty – Oh look there she is!

The Basic **Drama Triangle** of Victim, Hero, Perpetrator – **is not seen as a three** by **binary thinkers** – it is seen as a **list of 3 binary concepts**. This is often stressed in schools, formally as government policy, public services, media, films, books and is the constant binary narrative used by feminists, women (in general as a group) and children.

- Hero/Victim – have a relationship of some kind.
- Hero/Perpetrator – have a relationship of some kind
- Victim/Perpetrator – have a relationship of some kind.

This is a group term and group terms may be linked in binary hierarchies to other grouped terms.

This is the same thinking as most of the media have (“reporters”), Magistrates – the legal community and politicians in general.

Most legal thought in the last 100 years has been based on binary thinking and hierarchies. Hence it has been controlled and corrupted along the way by every binary certaintist running their binary certain causes.

This and my other documents may help <https://humanistman.com/wp-content/uploads/2020/05/Humanist-Information-Taxonomy.pdf>

## The Grid

The X Y grid is a standard model to visualize things. X is the number line. It has two directions, forward/backward, plus or minus. We started at one then got “other than one” then got infinity things which are “other than one”. This for many humans seems very complex.

Then still using our binary X line – we twist it as a right angle and we get two binary lines X,Y with two binary directions of infinity. Many binary thinkers stop here. This is all beyond them.

So you can take all these steps and paths along the grid following the X and Y grid and come back to where you started. Little steps of 1,2,3,4,5 and other combinations , repeated – in all kinds of ways.

And then you can take short cuts – diagonals.

You can go from one corner on a square to the opposite corner – in a kind of diagonal short cut, less energy choice. Infinity in infinity direction – point to point – but we still are yet to **notice the circle**.

## Listing the points from a Dancer's Routine

We are now going to re-frame what we see when we visit the points which coincide with the circle.

What we are going to do is place ourselves on the grid as the observer/explorer/dancer and specify our dance instructions in order to – firstly get to the circle – and figure out how we know where we are on the grid – can we detect the circle when we are there?

Firstly I am **hypothesizing** several important things.

- 1) The One Big Square, 10 by 10 grid with 4 5 by 5 squares inside next to each other is enough to usefully describe the universal patterns.
- 2) There is no need to escape the square and all calculations will be done with points (nodes), lines (edges, grid), and shapes which fit wholly within the 10 by 10 grid
- 3) The One circle is representative of a type of infinity – which for this exercise – **we can call chaos** and one circle in this grid is enough to usefully describe the universal patterns.

Related to this is the rule that every number on the integer line can be represented by 4 squared integers. See Fermat's last theorem, Joseph Louis Lagrange four square theorem and Edward Waring's problem. So I am assuming that in each of the four inner squares I can construct recursive steps – like Euler walks to produces “squares” which satisfy those notions – when all 4 inner squares are used “walked” simultaneously and recursively.

I have named the four squares as quadrants Q1,Q2,Q3,Q4.

I have put the Archimedes blue lines in the picture as well because they represent a **strong link** to the third dimension – but also Fibonacci and golden mean type concepts. I notice the pattern and link to the square root of 5 but I will not use it as a step in my walks – I will only use integers.

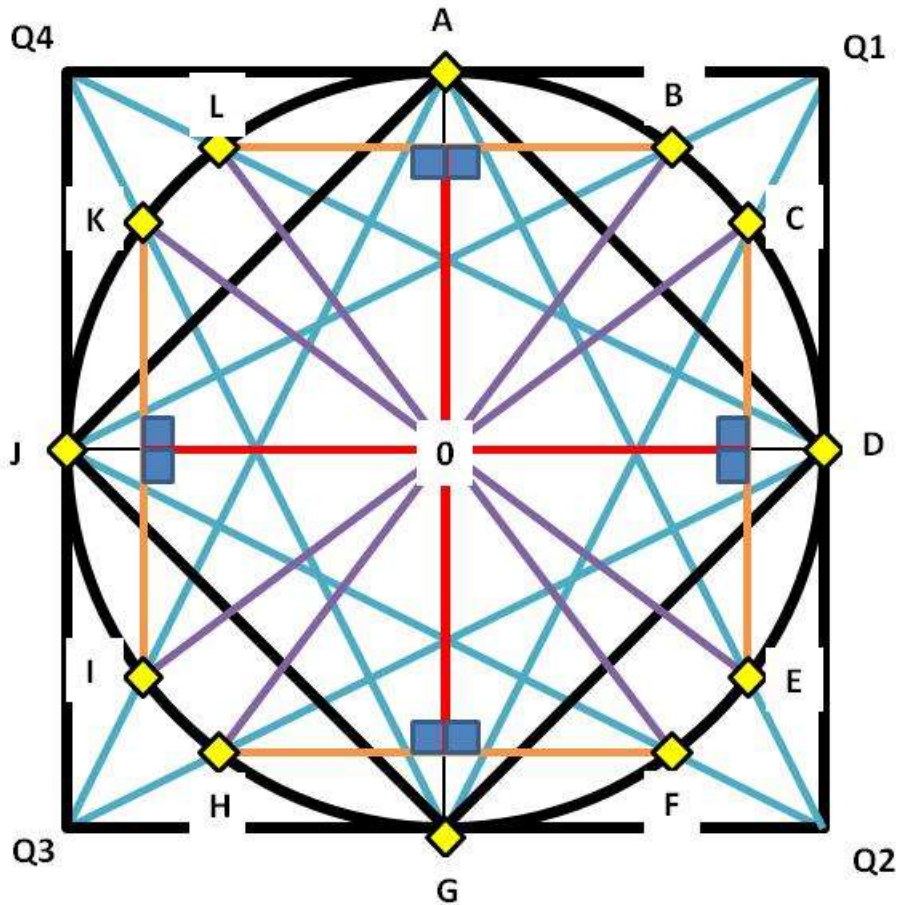
The Inner Big Square inside the Outer Big 10 by 10 square – which connects the points (nodes) A,D,G and J is shown because it represents a **strong link** to this dimension with a symmetrical, balanced square at the diagonal to the square – which is a central concept to the square root of 2 and pi infinity.

I have called the point (node) where all 4 inner squares connect as zero 0 – this relates to the X/Y graph representation.



I can further explore the links between integers, grids, squares and circles by analysis and working through each idea one by one. Ideas will emerge and many of you will notice the overlap with the unsolvable “squaring the circle” problem.

**Just because someone has proved something as unsolvable does not mean that exploring the issue may lead to new insights and understanding.**



All yellow points are connected by integer numbers only to various points on the circle. I am inclined to use only simple dance routines of **the sequence 1,2,3,4,5** and maybe a **sequence of 5's** as well because it seems to jump out at the bigger circle.

So taking steps exactly 5 at a time gives only a few paths to explore – we can only take the 4 square’s edges BUT if we somehow take a 5 step towards inside the square – we will end up at a dead end – but we might end up at an “integer” point at the circle. For example we could go around Q1 square and then when we get to zero (how would we know we were at zero?) somehow take 5 step in a kind of diagonal way towards to the opposite node – but we end up short but on the circle at B (for example) and have to take our big 5 “stepping boots” step back to 0 to try the other paths.

**So - what are the simple 5 steps to get to a point on the circle?**



**Now - we are going to do a simple trick here.** I will transform the grid measurements to the circle points in to the equivalent the dance routine instructions using the X Y coordinates and the concepts of plus and minus – so these relate to the ideas of left and right (forwards/backwards) and up and down – but really they are just simple dance steps.

*Why do that Jon?*

Well what I am trying to overcome is the general problem of knowing where you are on the grid – or relativity. How do I know where I am at each step along the way on the grid?

So let us start with simple dance routines.

So we will take the inner points on Quadrant 1 (Q1) as the first example of the 1,2,3,4,5 dance routine. Getting to points B and C.

## How to get to point B by 1,2,3,4,5

You can see the problem? See how we have 5 lines going out from point B so we have to transform the thinking a bit. So instead of saying take a step of 1 DOWNWARDS – which would be our initial bias of thinking we have to say take a step of 1 UPWARDS (the opposite way. And the same for 2 – instead of left say right. We have to specify the dance instructions relative to our destination point – our one fixed point on the grid.

So we have transferred our point of reference to the point on the circle (although we do not know that it is a circle) and we are specifying the dance routine to get us “somewhere” (we do not know where).

So we take the coordinates and turn them into dance routines.

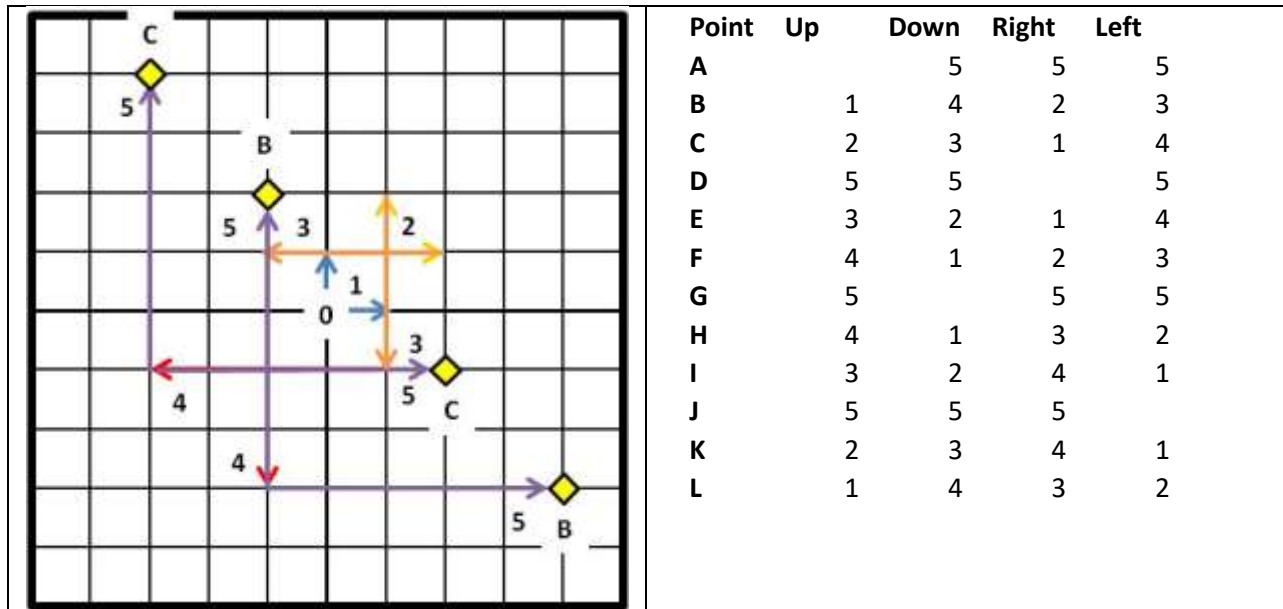
So the dance instructions for “**getting**” to B become 1 up, 2 right, 3 left, 4 down and 5 “**somewhere special**”.

The dance instructions for “**getting to**” C become 1 right, 2 up, 3 down, 4 left and 5 “**somewhere special**”.

Now we are going to transform those dance routines to the zero point and see where they take us. We set our dancer/explorer at point 0 in the middle.

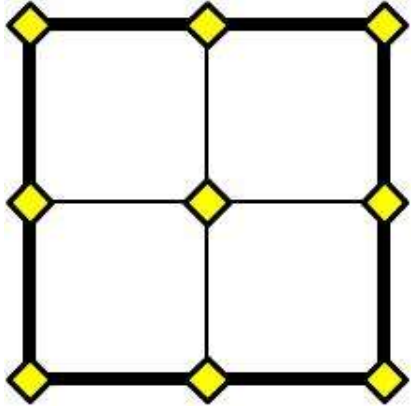
We have to take the dance steps in the order of the number sequence i.e. take 1 first, then two, then three, then four. Why – Because we are putting **sequence** (order) into our dance routine. “You have to start somewhere” – why not at 1?

Notice the limit of 5 – we cannot take a step outside the grid so our 5 choices are limit to 2 positions using the x and y axis only for our steps (no diagonals). Notice also that there are **exactly two points we can take from the 4 step to the 5 step** – where for all other steps there are usually 4 options are at least 3. By definition - taking the last step of 5 takes us out of our current inner 5 square into a another inner 5 square.



It seems like the choice to take the step of size 5 at the end takes us closer to ‘home’ or further away.

**Now** a brief look at taking steps of 5 ONLY. We are wearing only size 5 shoes so to speak. This can be reduced to the simple one big square with 4 squares inside. You can easily see that every point of every square could be a point on the circle – including the CENTRAL POINT – the “zero”. This means the squares fully encompass the circle – the circle is fully contained within the BIG square and is potentially a breakthrough in thinking. It is a two layered design (binary) – the first is the BIG square (10 by 10) and then 4 (2\*2) squares (5 by 5) within.

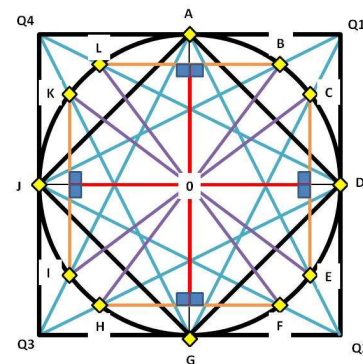
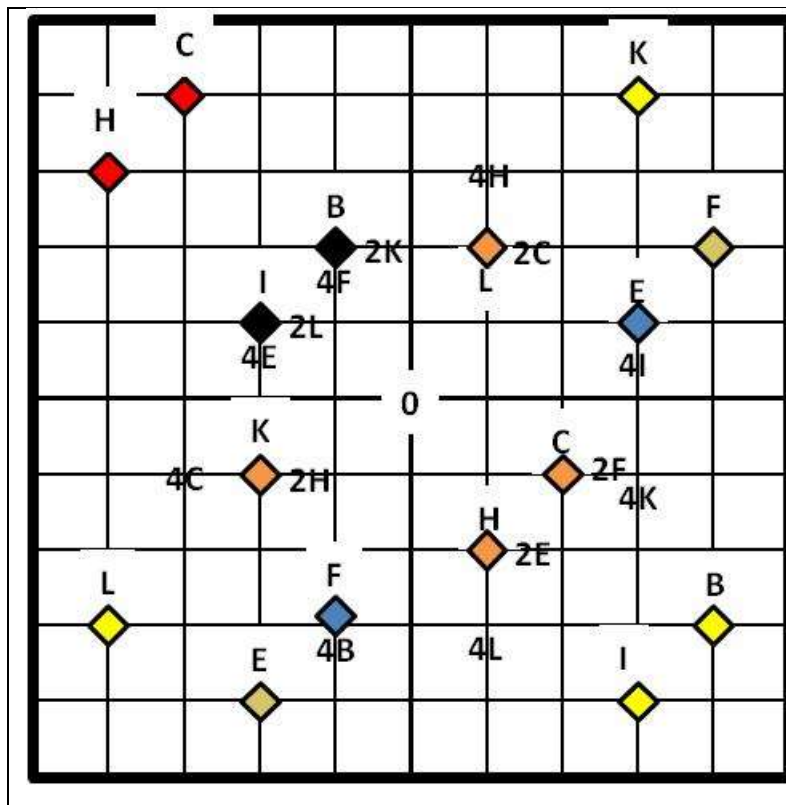


**WHERE AM I?**  
Taking just integer **steps of 5** – you may be on the circle or not on the circle. We will examine – the probabilities of this in the next chapter.

**I include the zero point because it is the centre of the circle** – and hence an integral part of the circle structure. Every circle must have a centre. So you could be at the centre OR the edge of the circle – OR not on the circle at all.

The points all mean the same thing - 0 (middle of circle) ,A,D,G,J or not on the circle.  
The question is still - can you tell when you are on a circle?

If you follow the dance routines as specified you can always end up at two points on the grid when you take the last step of the 5. Remember these points represent possible places where you might be on a circle. Stepping ON TO THE CIRCLE and AWAY FROM THE GIRD is another matter which I will explore later on.



Our dance routine following the simple sequence and grid rules had lead us to some complexity. Nothing but integers and binary choices have been used – yet it seems so complex. I have ignored the outer circle points A,D,G,J

I have labeled the 4<sup>th</sup> step for each path and any other step if it coincided - only 2<sup>nd</sup> steps did sometimes.

This relationship of points looks completely different to our other model. It seems transformed somehow – we know what we did and how we did it and the rules we followed. They were all simple binary choices. Building a conceptual view in our minds is very difficult so we just skip over (ignore, confirmation bias, sunk cost) anything which might require some brain work and take everything at face value – as we see it. So we can follow rules and build things – without necessarily understanding exactly what is going on. Explore.

So I tried to explore some sense of the ideas of strength of connection (link) – both to the grid and path choices. I was looking for same and different things. I first represented these by colours and extra labels on the points. If we look at the 4 orange points they are connected to the 2<sup>nd</sup> step choices of other paths – so it’s a kind of strong connection. Interesting that two of the orange points share the same grid line with the strong black points.

**Remember** all of these points are the points on the grid of the 5<sup>th</sup> step which according to our model **could be on a circle**. (this does not *look* like a circle)

We see the two blue points connected to the 4<sup>th</sup> step for outer path choices – so that is less strong – although they are connected to the black points (which I will describe soon).

All the yellow points are on the same grid line of three other points – you can see that maybe E and F yellow points could be considered more strongly linked because they are on the same grid lines of the orange and black points which are strongly linked.

Of all the points - the red C and H points are the least connected – they connect only by one grid line to only one other point. At the other end of the continuum is the 2 black points which have strong connections to 2 other paths at the 2<sup>nd</sup> step and the 4<sup>th</sup> step.

It is interesting to note the different symmetries – each quadrant looks different in different ways – we have two different patterns – Q4 and Q2 have that kind of rectangle look but each pattern is slightly different in each quadrant. For although the shape and distance is the same the colour (strength of links) is different. It seems like some kind of “balance”. The most isolated red points seem paired with the most stable black points in Q4. In Q2 we also see a pairs balance of two close orange with two close yellow.

Yet Q1 and Q3 also have some kind of symmetry and balance as well. I am inclined to declare that the yellow points F and E are a little different – this would make every point slightly different to every other point. Also the grid positions are a little more skewed.

I will do probabilities next but after that we will look at DIAGONALS of paths – these we can see as various squares and rectangles of different sizes – with 2 being our upper limit.

It is worth noticing that we can **repeat this transformation process infinitely** – take 4 reference points, go to zero , take the steps and see where 5 leads us.

## Permanent Little Bs'

Maybe we are just one type of person – a B. The Only steps we can take are the ones we already know

**B**            1            4            2            3

1 up, 4 down, 2 right and 3 left. We can't even take 5s maybe. The question is - are we on the same grid as the little Cs? Maybe we occupy another grid at right angles to this grid and all we will ever meet is other little Bs just like us. Maybe each point has its own grid? And then each point on each grid after that? Infinitely?

Or Maybe there is both our own B and C grid AND we can choose to share the same grid sometimes. – We bump into each other and say hello and share stories. “Hi I am a little B”, “Hi I am a little C”

*B: Where have you been?*

*C: I just did a 2 up – I have been doing a lot of 2 ups lately.*

*B: I have just finished a 3 left and I have a 4 down to go.*

*C: You will going past my previous 2 up point – say hello – actually I did 2 2 ups in sequence so you will be where I was 2 steps ago in one step!*

*B: It has been nice communicating – maybe we could catch up again sometime?*

*C: How would we work that out?*

## Paths and Probabilities

I am not working through all the probabilities with a 10 by 10 grid – I will do the steps of 5 and the ones. There are 100 squares in a 10 by 10 grid. Whenever you are in a square – there is a chance that one of your nodes (points) is touching the circle – either the CENTRAL POINT (ZERO) – the 4 outside points on the BIG SQUARE or the 2 inner points in the 4 inner quadrants (5 by 5 squares).

Each of these points has a slightly different characteristics using our X/Y grid. **Here follows an exercise in not rushing to add up numbers just because you can.**

	<p>D point has two squares which can touch it – bottom right corner and top right corner. So 1 point each of two squares.</p> <p>Similar for all big square points A,G,J = 8 squares and then the question becomes – how many points?</p> <p><b>Are the top right corner and the bottom right corner known to two squares at the same time?</b></p> <p><b>So if you were a well known binary pair of squares and you had integrated your knowledge of points in your structure then anything touching both your bottom right point and your top left point of your two square body – you would recognize it. “It might be a D”</b></p>
--	--

We have the other points potentially on the circle (including the middle) – all surrounded by 4 squares. But if all these 4 square things were well known and connected – they could share information about which point was being “touched” - so it would not be 4 different points on 4 different squares it would be one shared point on a group of 4 squares.

**Let us FIRST reduce it to just single independent squares. No-one knows anything about any other square.**

100 squares – 400 points/nodes.

- Outer circle points =  $4 * 2$  squares = 8 squares (32 points) - 8 points/nodes (1/4)
- Inner circle points =  $8 * 4$  squares = 32 squares (128 points) – 32 points/nodes (1/4)
- Zero circle point =  $1 * 4$  squares = 4 squares (16 points) – 4 points/nodes (1/4)

Potential circle nodes/points =  $8 + 32 + 4 = 44$

Probability of a point of a unit square being on a circle =  $44/400$ . 11%.

**Now 5 only.**

4 squares = 16 points/nodes.

- Outer circle points = 4 squares (16 points) - 8 points/nodes (1/2)

- Inner circle points = zero
- Zero circle point =  $1 * 4 \text{ squares} = 4 \text{ squares (16 points)} - 4 \text{ points/nodes (1/4)}$

Potential circle nodes/points =  $8 + 4 = 12$

Probability of a point of a unit 5 square being on a circle =  $12/16 = \frac{3}{4} = 75\%$ .

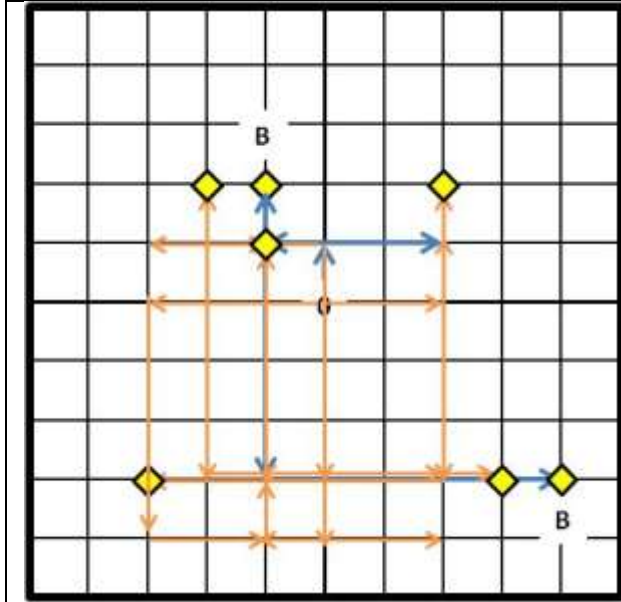
**Now trying to think about the shared information between unit 1 squares (they share information in their group)**

100 squares – 400 points/nodes.

I have some choices about how to frame this. I could change the frame so the grid size was the same as the square object I was looking at – i.e. make the grid look like units of 4 squares. Maybe I could keep the grid the same as far as counting things go but change how I count things in the object I am using - a two by 1 rectangle or a 4 by 4 square. Maybe I could consider the object as only it's outer nodes? Maybe instead I could have some kind of dual approach – I could consider all of the nodes of the connected object but reduce it to a count of one node for the whole object when it is touch with a circle? And for 1 by 2 rectangles I have orientations to think of as well – is it possible to know which way you are orientated? Is there one universal “up”? There are other frame choices as well.

	<p>So whenever a touch point is in play we will only count it as one and not recount for each square. 8, 7 nodes for 1,2 rectangle? and potentially - 16,15,14,13 for the 4 by 4 square? - there are some multiple touch points</p>
	<p>Wow this is getting complicated. That little 4 square in the red colour has squashed another 4 square at the same place – are they allowed to do that? Two observers in the same space? Can they step on each other's toes – so to speak or is this like a Pauli exclusion principle thing? So these little organisms as they travel around the grid might potentially experience the “circle” at one or two points simultaneously. They also might notice as they travel how the touch points change between steps. Maybe there are patterns which help them orientate themselves. Notice how some of the 4s could be seen as two 2's together? How would you know? The one little touch point probably goes unnoticed. Maybe the two simultaneous touch points get remembered and noticed.</p>





These colours don't match my scheme – I was just playing.

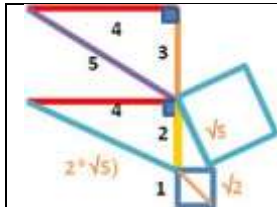
Just a little more on paths and probabilities if you do the 5 steps out of order i.e. 1,2,3,4,5 becomes 2,1,3,4,5 you get some different results – some paths cannot be complete because they go outside the frame – you generally cannot start with 5 - but I have not done it all – I make mistakes everywhere.

Is there a pattern with Bs – what about Cs?

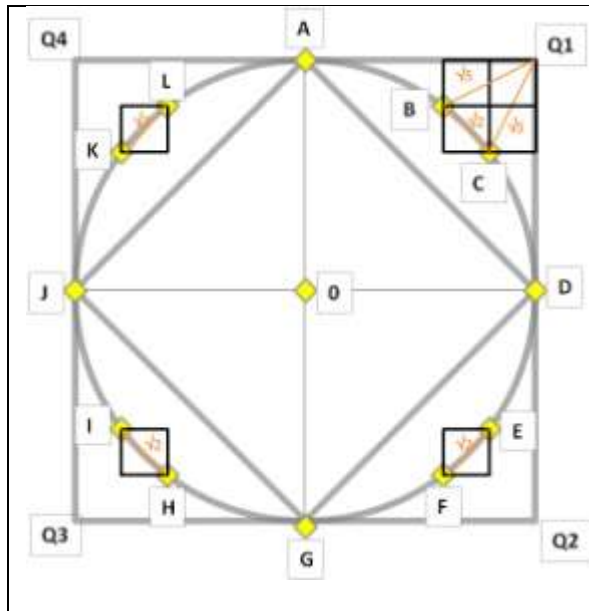
Give it a try yourself.

## Diagonals

These diagonal things seem real in our universe. There is a weight of evidence which suggests we have learned to take diagonal short cuts on the grid. This lifts us from the basic X,Y (and other infinite dimensions) grid to another layer of binary complexity– the diagonal or not the diagonal. At this stage the binary thinkers are saying “Why are you calling me binary?” “Am I either Binary or Not Binary?”



The square root of 2 is the shortest possible diagonal step you can take. The next one up is the square root of 5. Both these numbers repeat again and again in many measurements and observations. I am tempted to re-visit the link – strength type model based on well connected Root 2 and 5 links – but not today.



Those inner circle points seem special somehow. The best chance of seeing the circle is this little diagonal trick. e.g B to C – we take that short cut – the little step until we reach our predetermined node (the target) – the light in the distance – the well worn path.

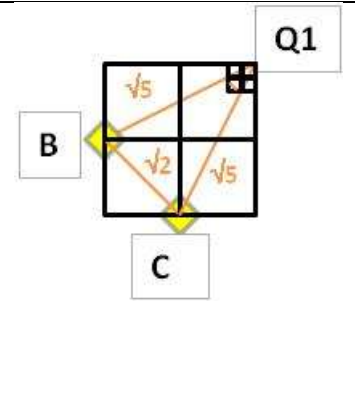
It is only a small root 2 step and we have been taking so many diagonals of root 5 and root 2. BUT what if along that little short cut we stop and find ourselves on a stable path – a new spot entirely which seems stable (the circle) and fixed on some kind on new dimension. These eight points on the grid – paired closely together – can they help us stumble onto the new dimension in the circle – and the next?

What do we feel when we touch the circle? Does it feel like chaos? 4 paths out of (6 per unit square \* 100 squares=) 600. That's not very many places where we are so close to the circle with one of our paths.

Other theories would automatically connect other dimensions through those circle points and we are simply not aware of it. I like the romance, exploration and the discovery of the stumbled upon path – image the strangers and discoveries!

Inbetweeness (infinitesimals) allows us to step off the grid into the spaces inbetween and explore there where our only reference is the square which surrounds us.

So Many infinities. See the recursion?



## Recent Investigations

Monty Hall, Herds.

1. Herd Mentality [https://en.wikipedia.org/wiki/Herd\\_mentality](https://en.wikipedia.org/wiki/Herd_mentality)