

$$e^{i\pi} + 1 = 0$$

e to the power of  
(i times pi)  
plus one  
equals zero

Sharon Chou

~ e ~

- 01 Would you rise forever into unknown?
- 02 If raised to a variable power
- 03 Or approach a limit, to a touchstone?
  
- 04 You set your own derivative, alone
- 05 Rate of change that appears throughout nature
- 06 Would you rise forever into unknown?
  
- 07 Countless differential equations have shown
- 08 You at work, yet you intrigue forever
- 09 Or approach a limit, to a touchstone?
  
- 10 Interests, half-lives, and perceptions of tone
- 11 Seemingly everywhere, persists with hour
- 12 Would you rise forever into unknown?
  
- 13 Catenaries rising into the zone
- 14 Above, logarithmic spirals flower?
- 15 Or approach a limit, to a touchstone?
  
- 16 Exponential base: time and space postpone
- 17 Themselves into your mystical power
- 18 Would you rise forever into unknown?
- 19 Or approach a limit, to a touchstone?

~ π ~

- 01 Will you reveal a delicious pattern?
- 02 Novel insights from ancient existence
- 03 Or remain tantalizingly stubborn?
  
- 04 All circles, M&M's, jack-o-lantern
- 05 You surround with ubiquitous presence
- 06 Will you reveal a delicious pattern?
  
- 07 Countless methods devised and spurned, all yearn
- 08 To break your code... Would you grant assistance
- 09 Or remain tantalizingly stubborn?
  
- 10 Geometry, radians and trig return
- 11 Periodically, 'round the distance
- 12 Will you reveal a delicious pattern?
  
- 13 Buffon's Needle connected you in turn...
- 14 Perchance you illuminate the suspense
- 15 Or remain tantalizingly stubborn?
  
- 16 In Heisenberg's uncertainty, we learn
- 17 To respect your open yet cryptic stance
- 18 Will you reveal a delicious pattern?
- 19 Or remain tantalizingly stubborn?

~ i ~

- 01 A shadow, how did you ever turn real?
- 02 Just the concept alone drives one insane
- 03 Or is it an existential appeal?
  
- 04 Imaginary roots along a wheel
- 05 De Moivre's in action, sweeping complex plane
- 06 A shadow, how did you ever turn real?
  
- 07 Nicknamed "j" in circuits, you turn the reel
- 08 That oscillates... an electrical vein?
- 09 Or is it an existential appeal?
  
- 10 When the conjugates, real numbers anneal,
- 11 And reflect 'cross imaginary lane
- 12 A shadow, how did you ever turn real?
  
- 13 Mandelbrot, Julia sets: fractals reveal
- 14 Artistry of chaos. Does it explain
- 15 Or is it an existential appeal?
  
- 16 Fluid dynamics and space-time would feel
- 17 Incomplete if complex functions refrain
- 18 A shadow, how did you ever turn real?
- 19 Or is it an existential appeal?

~ Zero ~

- 01 By the gate yonder
- 02 Dividing the to and fro
- 03 Of duality

~ One ~

- 01 Toward unity
- 02 And initiate counting...
- 03 Then, we become one

### Annotations / References / Further Readings

**Title:**

<http://mathworld.wolfram.com/EulerFormula.html>

~ e ~

Eli Maor, *e – The Story of a Number*, Princeton, NJ: Princeton University Press, 1994.

- 01, 02, 03: <http://mathworld.wolfram.com/e.html>
- 04: (Maor, 98)
- 06, 07: (Maor, 96-97)
- 10: <http://mathworld.wolfram.com/CompoundInterest.html>  
<http://mathworld.wolfram.com/ExponentialDecay.html>  
(Maor, 111)
- 13: (Maor, 140-143)
- 14: (Maor, 134-135)

~ π ~

- 01 - 09: <http://mathworld.wolfram.com/Pi.html>
- 10: <http://mathworld.wolfram.com/Radian.html>
- 13: <http://mathworld.wolfram.com/BuffonsNeedleProblem.html>  
<http://en.wikipedia.org/wiki/Pi>
- 16: [http://en.wikipedia.org/wiki/Uncertainty\\_principle](http://en.wikipedia.org/wiki/Uncertainty_principle)  
<http://scienceworld.wolfram.com/physics/UncertaintyPrinciple.html>

~ i ~

- 04: <http://mathworld.wolfram.com/RootofUnity.html>
- 07: [http://en.wikipedia.org/wiki/Complex\\_number#Signal\\_analysis](http://en.wikipedia.org/wiki/Complex_number#Signal_analysis)
- 10: [http://en.wikipedia.org/wiki/Complex\\_number#Coordinates](http://en.wikipedia.org/wiki/Complex_number#Coordinates)
- 13: [http://en.wikipedia.org/wiki/Mandelbrot\\_set](http://en.wikipedia.org/wiki/Mandelbrot_set)  
[http://en.wikipedia.org/wiki/Julia\\_set](http://en.wikipedia.org/wiki/Julia_set)
- 16: [http://en.wikipedia.org/wiki/Complex\\_number#Fluid\\_dynamics](http://en.wikipedia.org/wiki/Complex_number#Fluid_dynamics)  
[http://en.wikipedia.org/wiki/Complex\\_number#Relativity](http://en.wikipedia.org/wiki/Complex_number#Relativity)

**Poetic forms:**

"e", "π", "i" are villanelles. (<http://en.wikipedia.org/wiki/Villanelle>)  
 Each line is in pentameter (ten syllables).  
 "Zero" and "One" are haikus. (<http://en.wikipedia.org/wiki/Haiku>)

