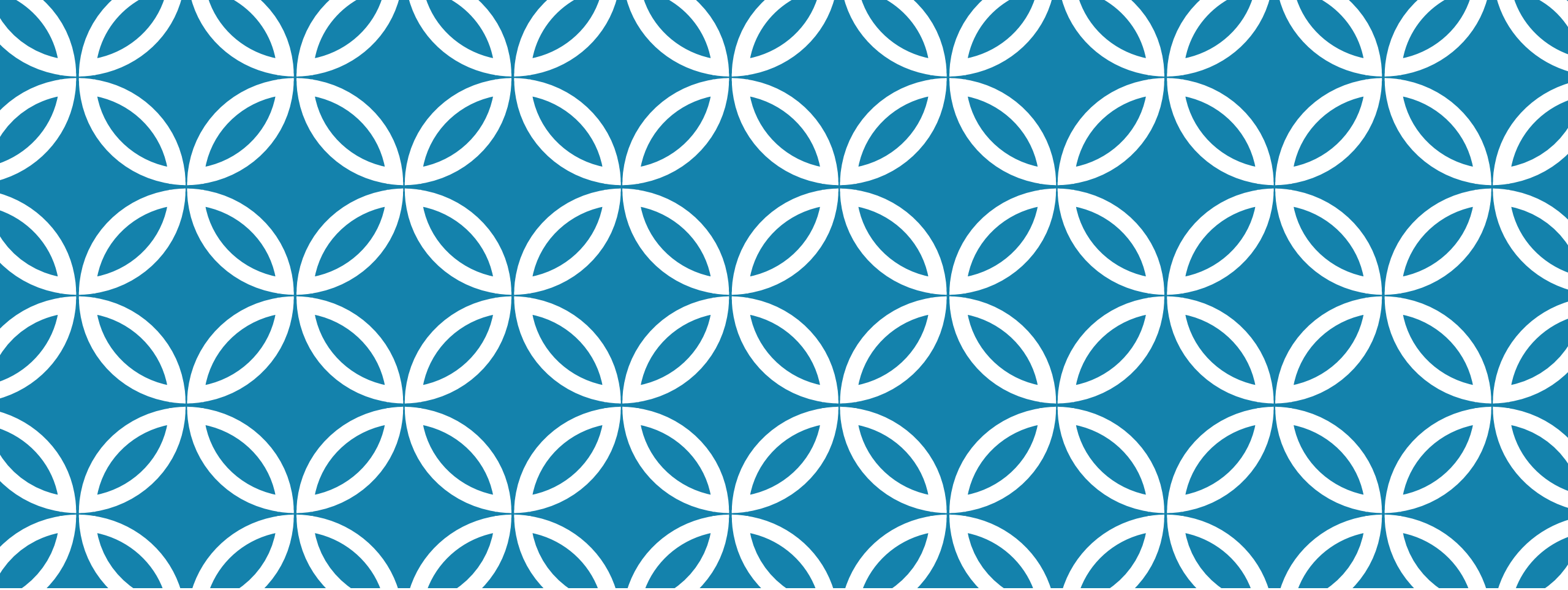
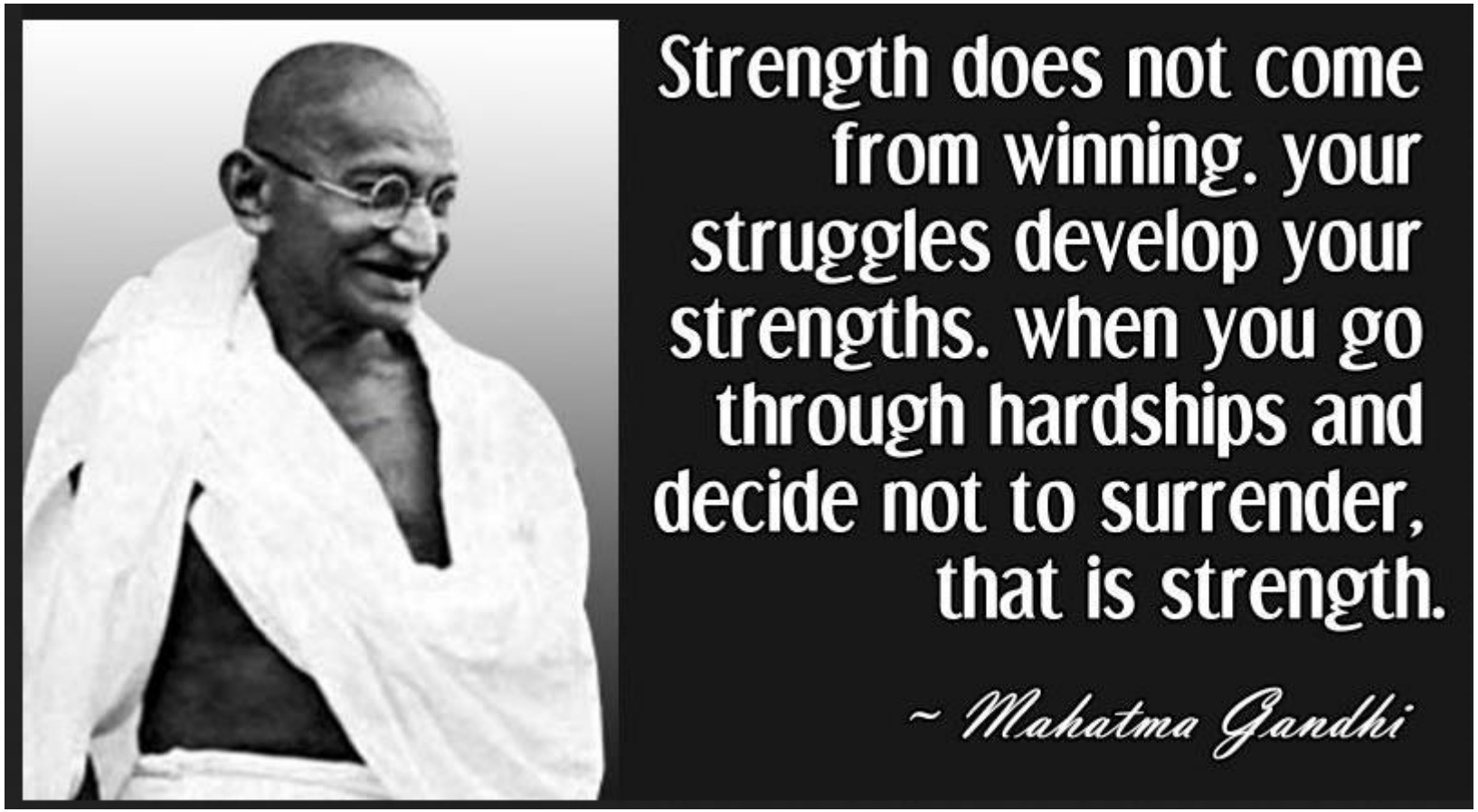


MATH ENRICHMENT PROGRAM

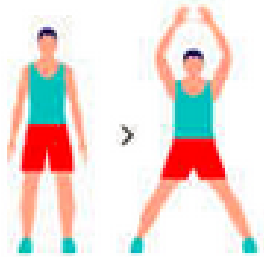
PATTERNS, LINES & QUADRATICS

Day 4

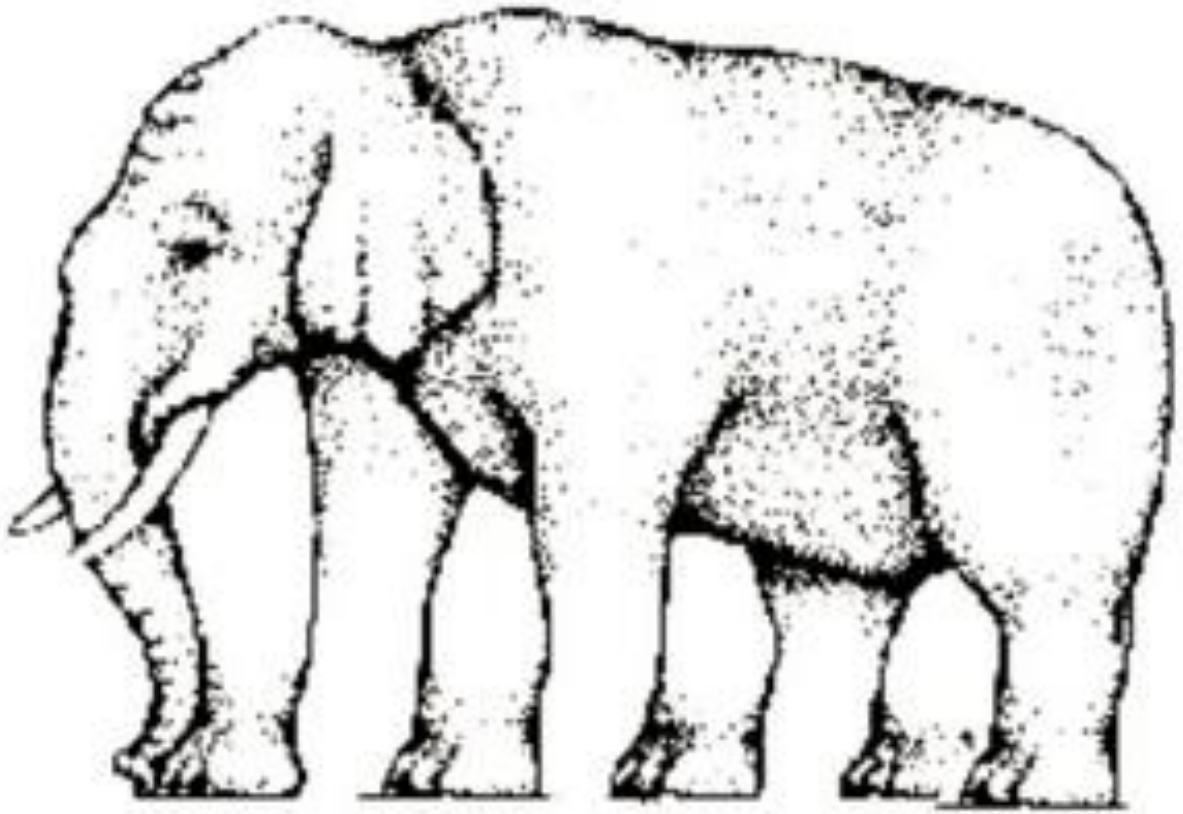
DISCUSSIONS



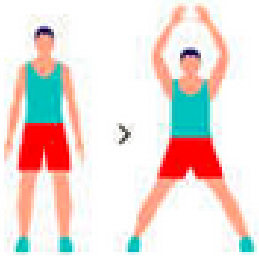
WARM UP

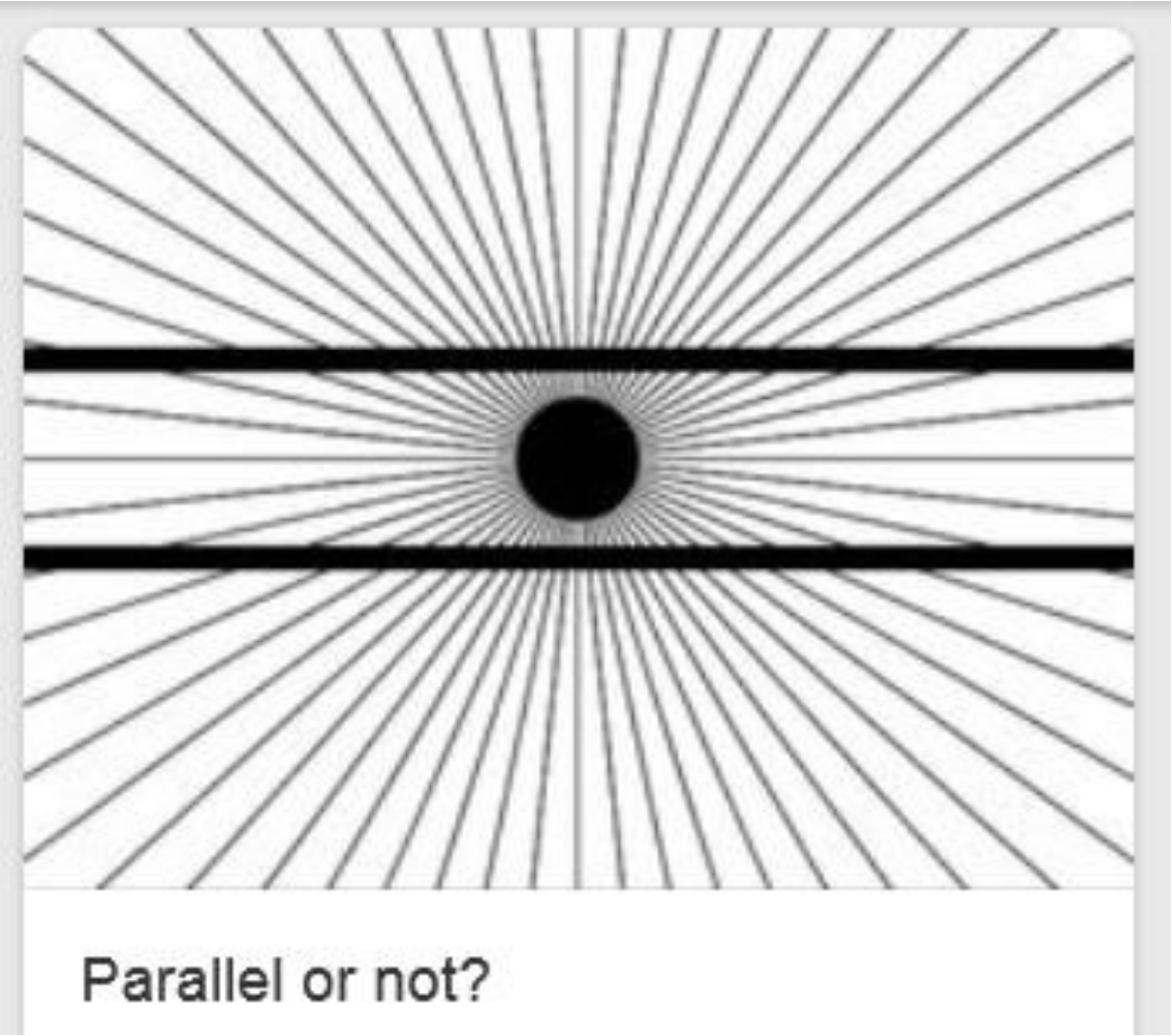


How many legs does this elephant have?

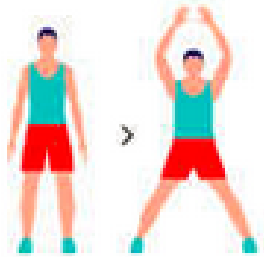


WARM UP





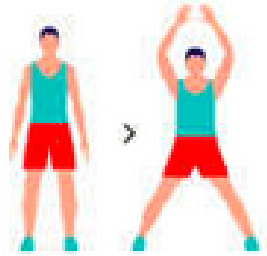
WARM UP



YOUNG VS OLD FACE ILLUSION

Similar theme was used on a German postcard from 19th century.

π OR NOT π ?



C/D

π

A/r^2

22/7

3.14159

3.14

POP – UP #1

1) What is the *rule* for f(x)

x	f(x)
-5	-25
2	10
-2	-10
5	25

A) f(x) = -5

B) f(x) = -5x

C) f(x) = 5x

D) f(x) = 5

POP – UP #2

2) Fill in the blank,

1, 5, 25,_____, 625, 3125.

A) 50

B) 125

C) 100

D) there is no pattern

POP – UP #3

For the linear function $y = 3x + 2$; if $x = 0$, the $y = ?$

A) 3

B) 0

C) 2

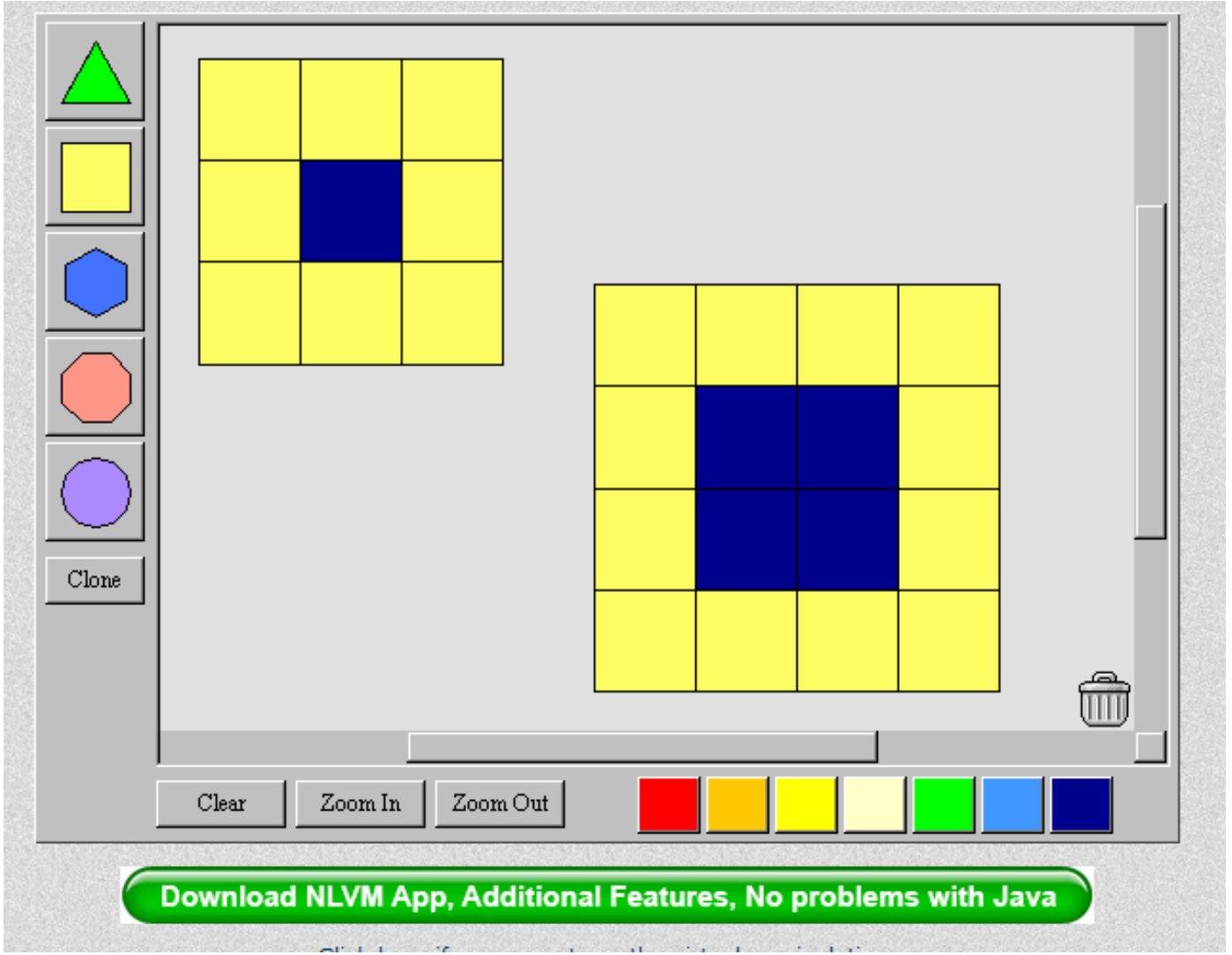
D) can't be found

SWIMMING POOLS

Blue pool

&

Yellow walkway



http://nlvm.usu.edu
Geometry
Tessellations

SWIMMING POOLS

Use color tiles & build pools 1 to 3

Describe any pattern you see

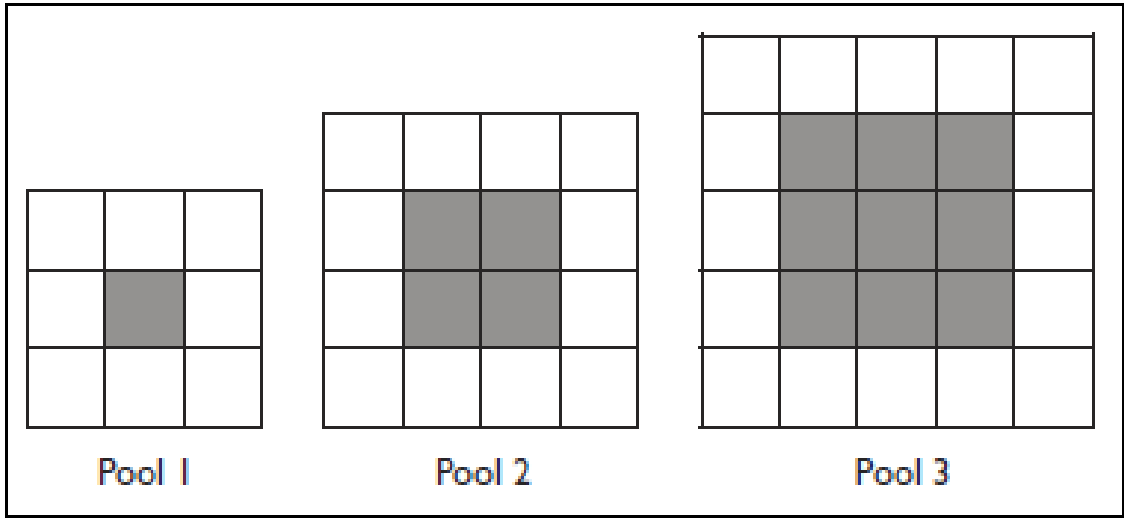
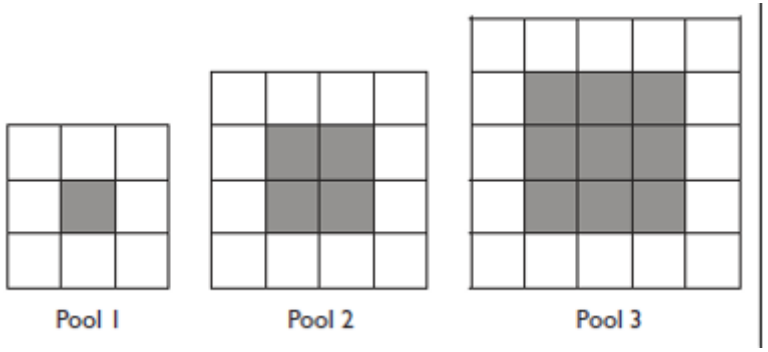
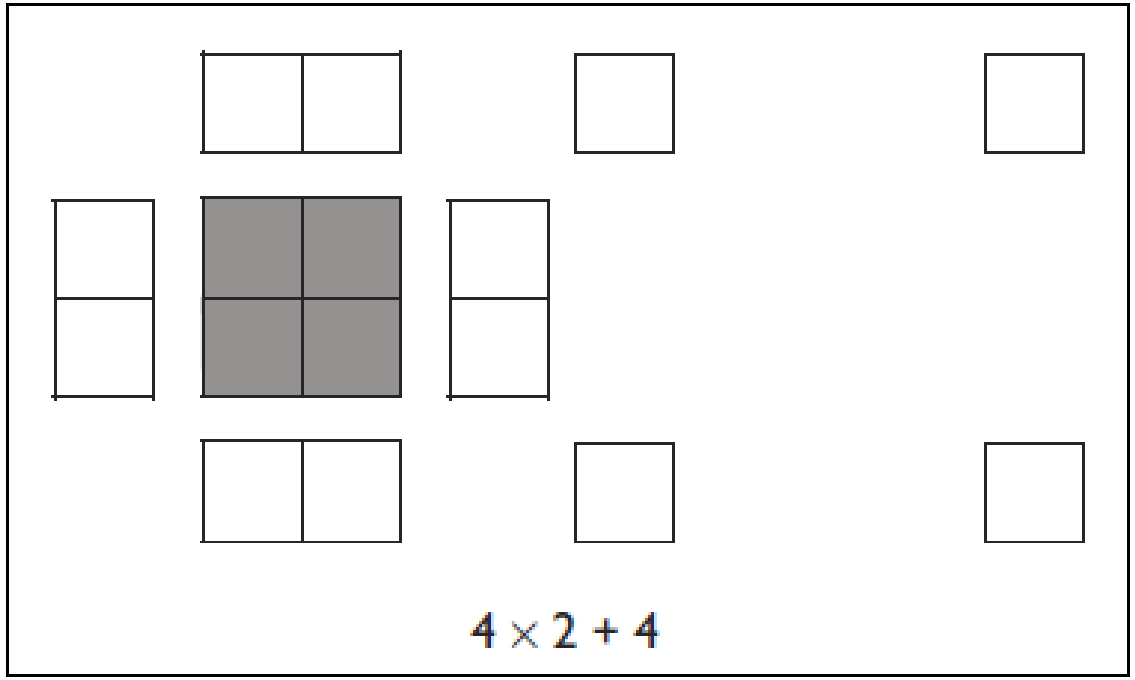


Fig. 1. Swimming pools with borders

ORGANIZE OUR DATA

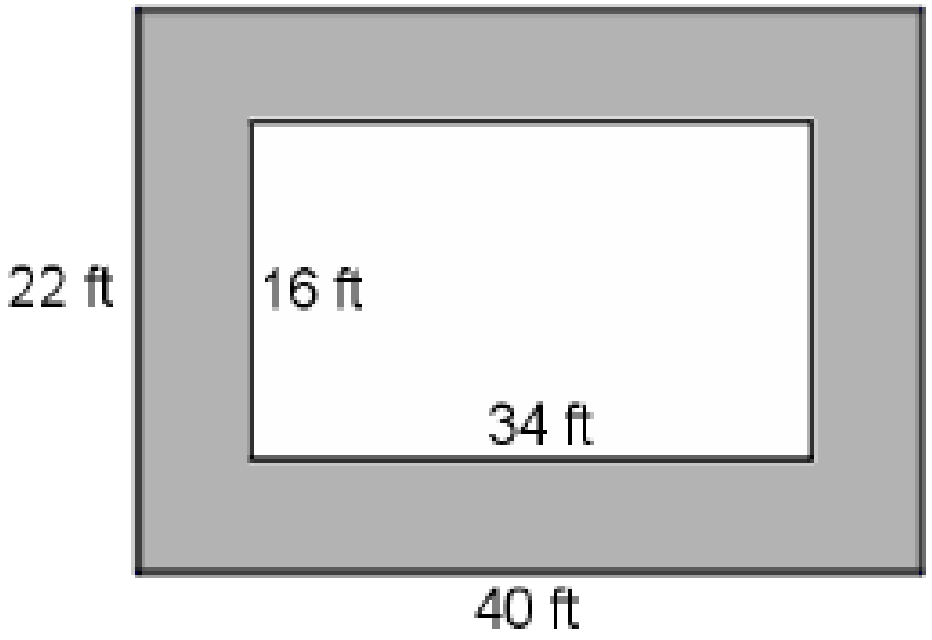


Pool #	# of Pool tiles	# of Walkway tiles	Total # of tiles
1			
2			
3			
4			
5			
6			
7			


4 × 2 + 4

APPLICATION

Mr. Moretti wants to cover the walkway around his swimming pool with tile. Determine how many square feet of tile he will need to cover the shaded portion of the diagram. Show your work neatly and completely.



POP – UP #4

4) Fill in the blank,

1, 4, 9, 16, _____ , 36, 49, …

A) 25

B) 24

C) 20

D) 35

POP – UP #5

5) For the linear function $y = 3x + 2$, the slope of the line tells us that for every 1 unit change in x there is a 3 unit change in y.

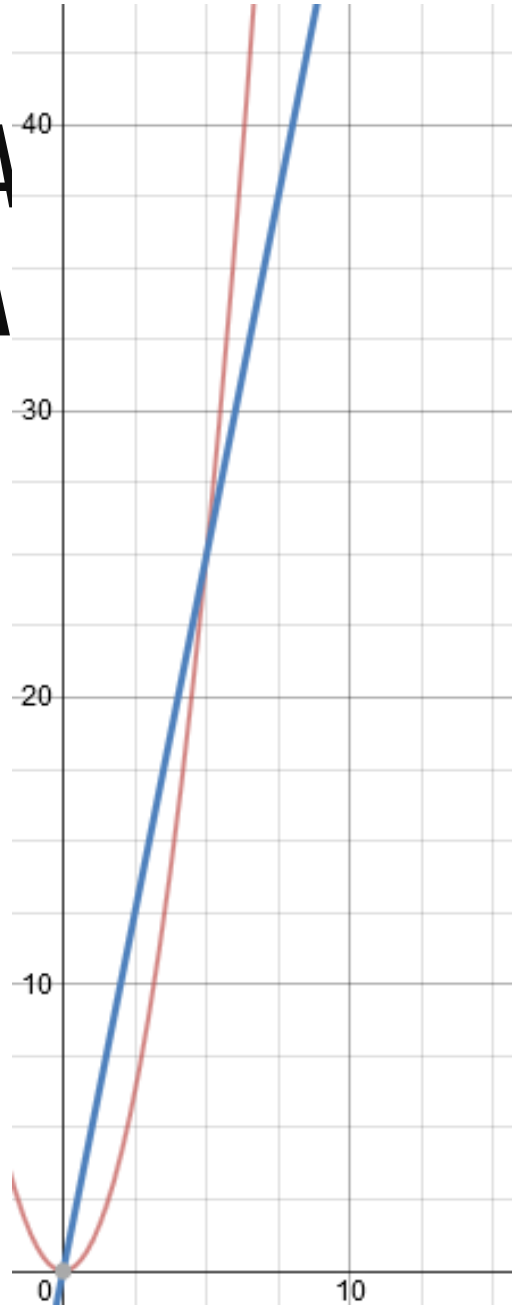
A) True

B) False

IF TIME ALLOWS GO TO DESMOS.COM & GRA
THE GENERALIZATIONS COMPARE & CONTRA

https://www.desmos.com/calculator

You could ask
“ at what value of x does the quadratic function starts to grow faster than the linear function?”



SUMMARY

Please write on the board

Write TWO things you learned in this session