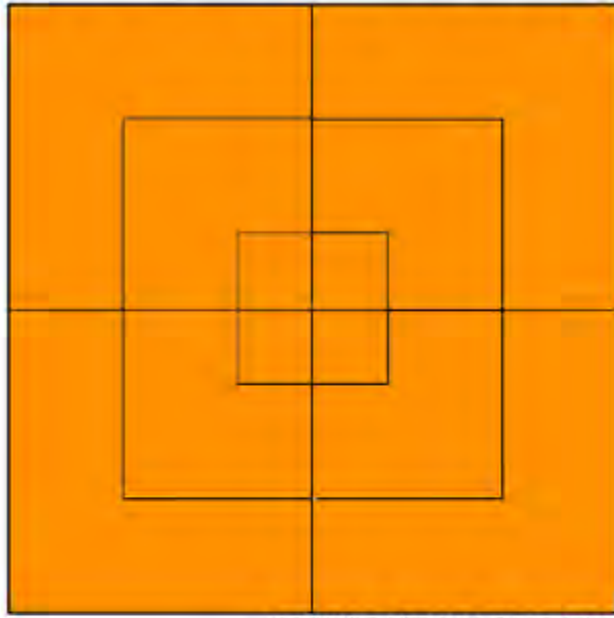


HOW MANY SQUARES DO YOU SEE?

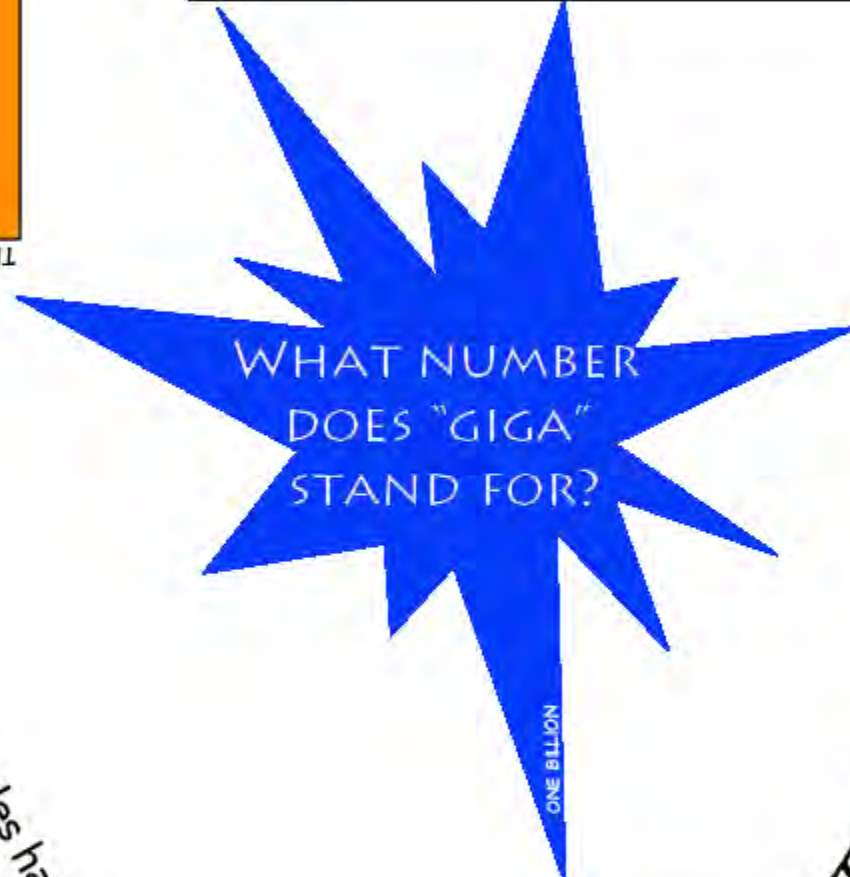


THERE ARE FIFTEEN SQUARES

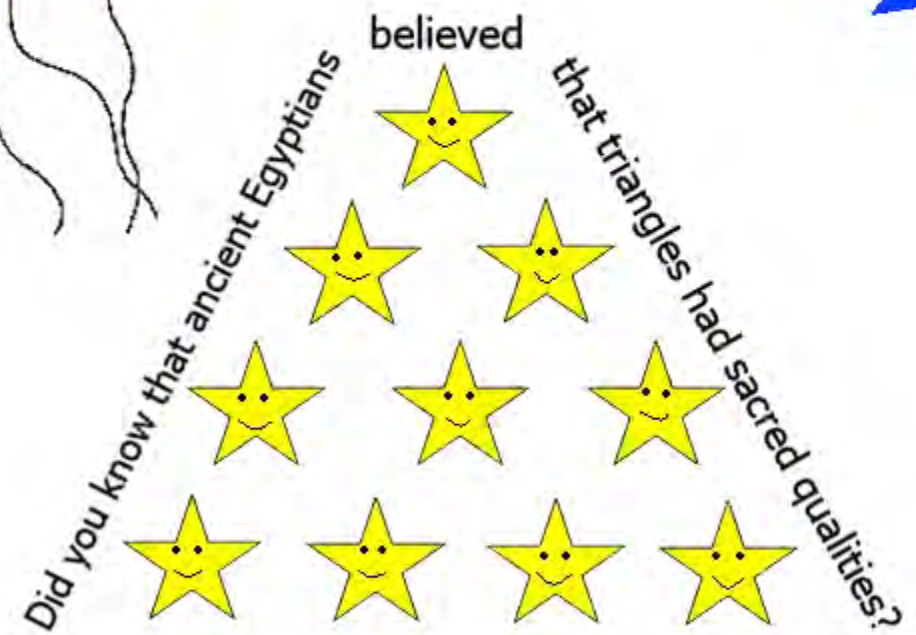
**DID YOU KNOW?
NO PIECE OF PAPER CAN
BE FOLDED IN HALF MORE
THAN SEVEN TIMES.
TRY IT YOURSELF!**



Imperial Oil Foundation



WHAT DOES THIS SAY?



The triangle above is made of stars.
Can you move 3 stars so that the triangle is upside down?

Try it out by making this formation with 10 coins.
Can you move three pennies so that the triangle is upside down?



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What do magicians say when they do a magic trick?

Solve these problems to find out where each letter belongs in the secret phrase!

A	R	B	D	C
$\begin{array}{r} 3 \\ +4 \\ \hline \end{array}$	$\begin{array}{r} 11 \\ +5 \\ \hline \end{array}$	$\begin{array}{r} 12 \\ +6 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ -2 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ -2 \\ \hline \end{array}$

7 18 16 7 5 7 4 7 18 16 7



GUMBALLS

A gumball machine is filled with 15 red gumballs and 15 blue gumballs. Each gumball costs 1 penny. How many pennies are needed to guarantee a person of getting two gumballs of the same colour?

You would need to buy three, so three pennies.

Mysterious Matrix

from Mental Magic, Martin Gardner (1999)

Circle any number, then cross out all the numbers in the same row and the same column as the number you circled. Select any number not crossed out and circle it. Again, cross out all numbers from the same row and column as the circled number. Repeat this until you have six circled numbers and the rest crossed out. Add together the six circled numbers. What did you get?

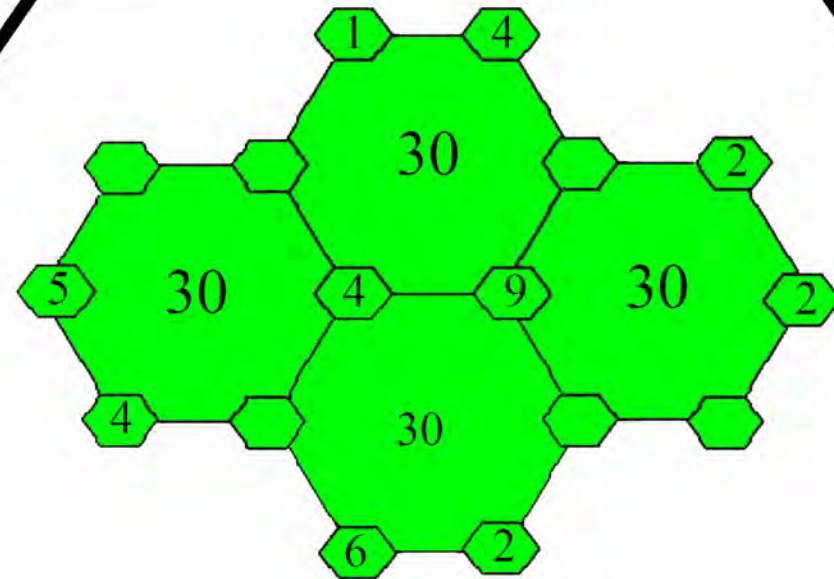
28	26	30	27	29	25
34	32	36	33	35	31
16	14	18	15	17	13
4	2	6	3	5	1
10	8	12	9	11	7
22	20	24	21	23	19

It's always 111! Try it again with another number.



Kingston Counts!

WHAT HAPPENS WHEN A DIME KNOCKS ON A DOOR?
HE BREAKS HIS NICKELS!



Hexa - math

Using the numbers 1-9, fill in the blank hexagons. The six numbers around each of the four big hexagons should add up to 30



Can you figure out what number each shape represents?

$$\begin{aligned} \blacksquare + \blacksquare + \blacksquare + \blacksquare &= 8 \\ \blacktriangle + \bullet + \blacktriangle + \blacksquare &= 18 \\ \blacksquare + \blacktriangle + \bullet + \bullet &= 16 \end{aligned}$$

HOW MANY MONTHS HAVE 28 DAYS?
ALL OF THEM!



Fill in the missing numbers in this magician's magic scarf.

Operations on the scarf: $\times 2$, $+2$, $+4$, $\times 2$, $+12$, -5 , -8 , -22 .



What do you call a crushed angle?
A rectangle!

Shape Sudoku

★			
			☞
	🎩		
		☾	

Draw magic hats, moons, stars and magic wands in the table so that each shape appears only once in each row, column and corner-to-corner diagonal.

Why was the math book so upset?
Because it had so many problems!

Mystery Beads
Look at the bead patterns to figure out how many beads are inside the box.



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NUMBER SEARCH
Find as many subtraction facts as possible. You may use the same number more than once and you may form facts horizontally, vertically, diagonally, and backwards

10	8	2	7	4	11	9
15	8	5	9	3	6	17
6	0	15	7	8	21	3
4	13	1	2	5	1	14
12	6	14	8	20	2	18
9	3	7	10	16	0	3
11	2	7	15	18	2	1
3	0	1	9	17	13	14

How can you cut a cake into 8 even pieces using only 3 cuts?

With two vertical cuts and one horizontal.



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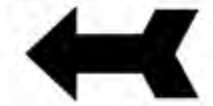


1	3	2	4	3	5		6	5	7	6	8		9	8	10	
---	---	---	---	---	---	--	---	---	---	---	---	--	---	---	----	--

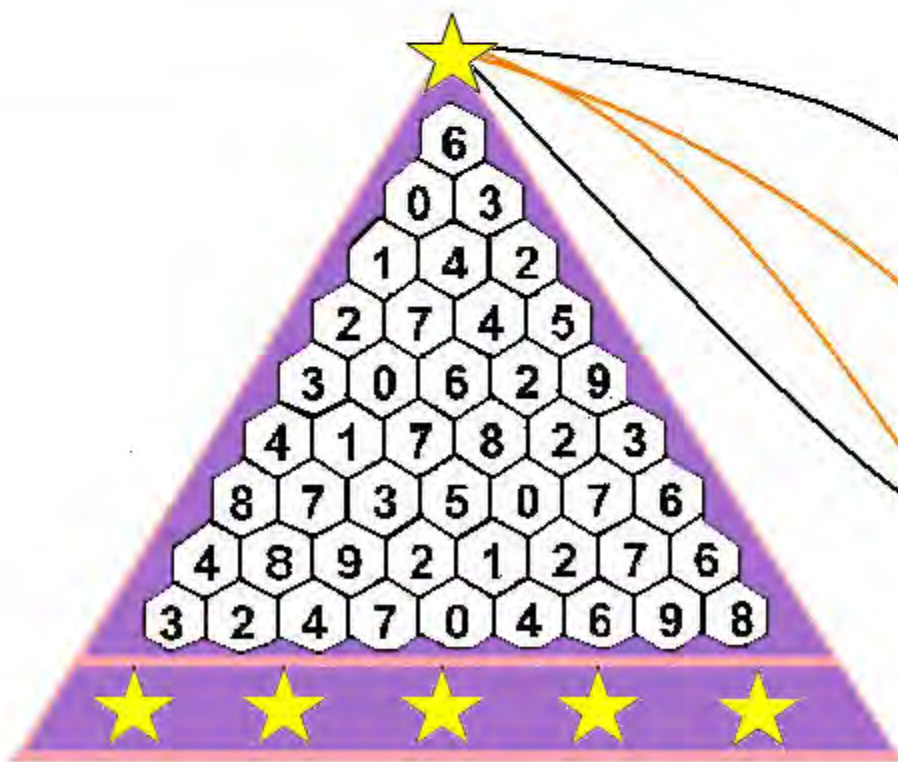
Help the wizard use his wand by completing the number pattern!

Did you know?
At first an inch was the width of a man's thumb.

Colour in all of the spaces with even answers.



67 -22, 94 -53, 76 +13, 52 +5, 38 -13, 92 -7, 14 -3, 62 +17, 10 +45, 28 +70, 64 +12, 69 -26, 83 +15, 5-2-, 28 15, 24 +53, 88 -67, 82 +3, 54 +34, 3+6-, 26 13, 36 +51, 67 -34, 23 +46, 62 -11, 79 +20, 70 +20, 86 -45, 16 +21, 25 -24, 45 +32, 19 -18, 16 +12, 54 -43, 78 +0, 14 -4, 67 +21, 42 +42, 5 +4, 11 -70, 81 +14, 94 +3, 64 +22, 7-5=, 38 +60, 72 +23, 26 +43, 81 +14, 13 -12, 8+2=, 97 -93, 69 -52, 75 +14, 58 -27, 65 +24, 83 -53, 48 -33, 78 -37, 38 +41, 98 -94, 73 +43, 88 -10, 46 +42, 48 -33, 78 -37, 72 +5, 16 +2, 8-6=, 63 +14, 9-2-, 44 +11, 58 -35, 61 +6, 8-5-, 44 -21, 36 +51, 96 +3



Start at the top of the magician's hat. Find the route that gives you the smallest total by adding the numbers as you go from top to bottom. You can travel in a straight or diagonal line.

