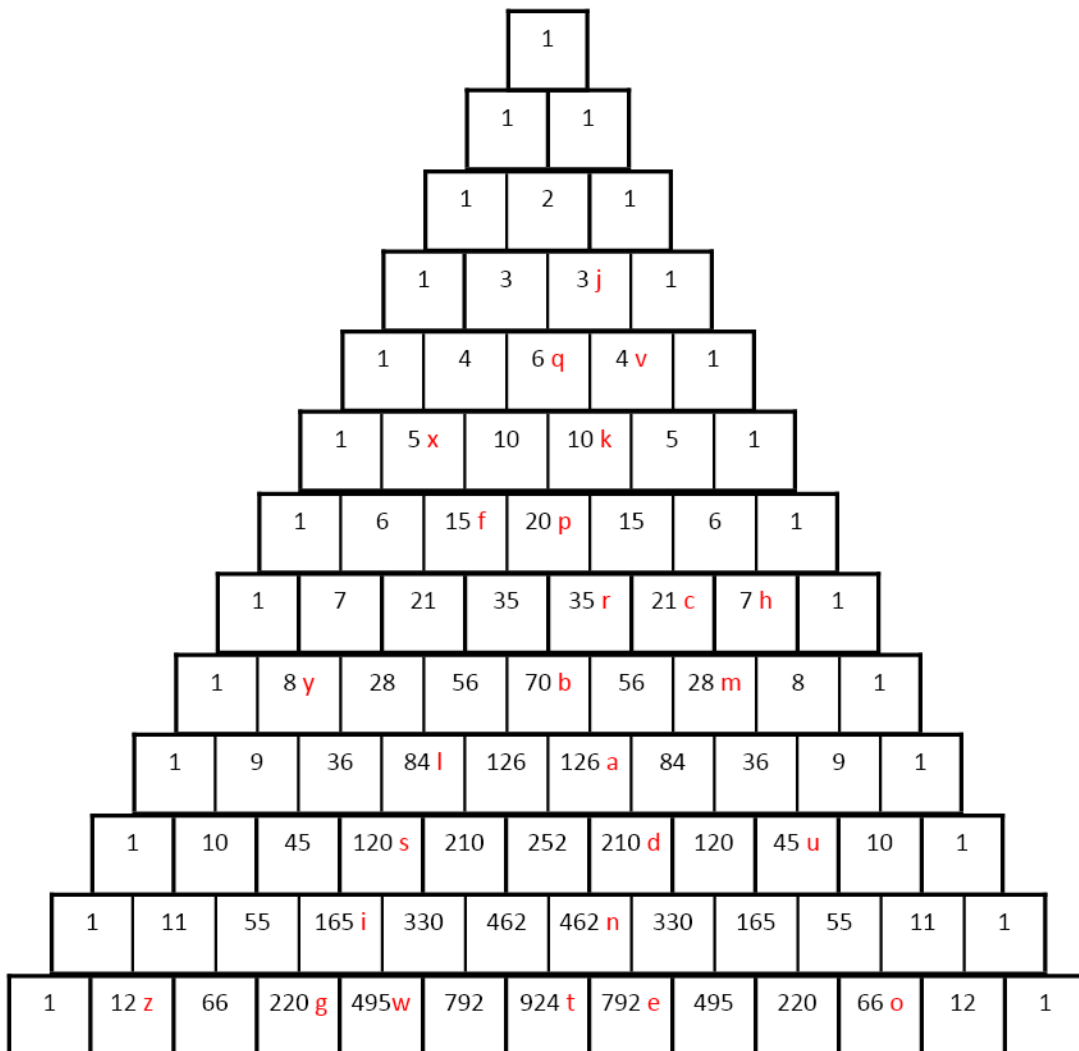


## Clue 1 Pascal's Triangle

Complete Pascal's triangle by adding the numbers in the 2 squares above each square. Find out which number represents each letter and decipher the message.



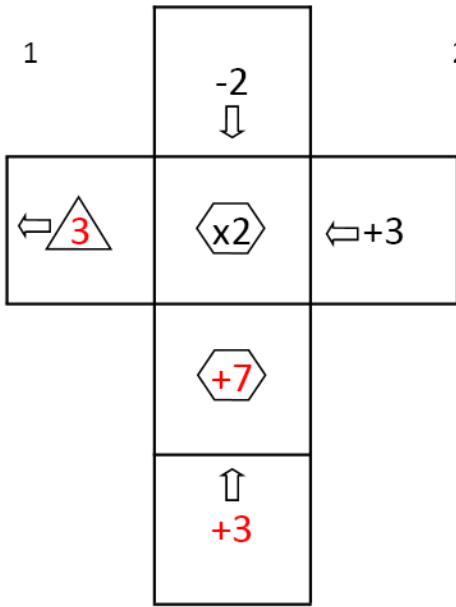
A	B	C	D	E	F	G	H	I	J	K	L	M
126	70	21	210	792	15	220	7	165	3	10	84	28

N	O	P	Q	R	S	T	U	V	W	X	Y	Z
462	66	20	6	35	120	924	45	4	495	5	8	12

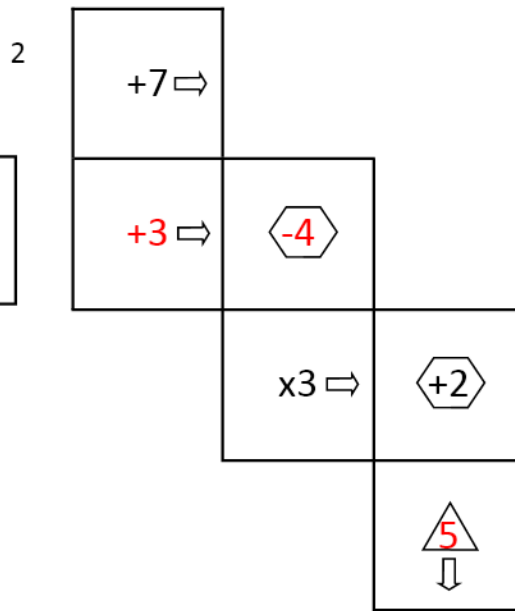
28	210	165	210	462	66	924	45	120	792	126
M	D	I	D	N	O	T	U	S	E	A
924	45	462	462	792	84	924	792	462	924	
T	U	N	N	E	L	T	E	N	T	

## Clue 2—The net closes in.

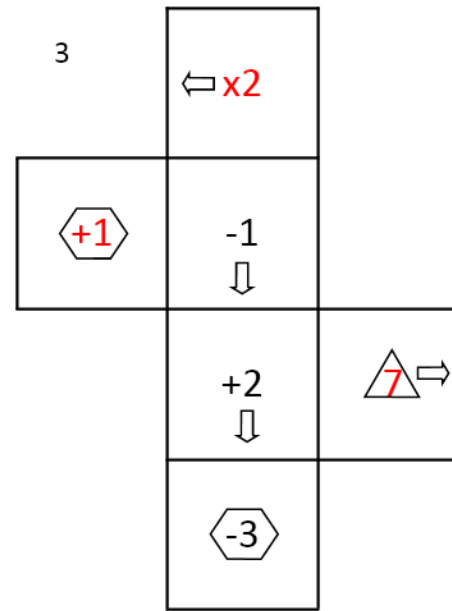
Start with the number in the triangle. Follow the arrows round each cube net until you reach a hexagon. Can you work any of these out without making the cube?



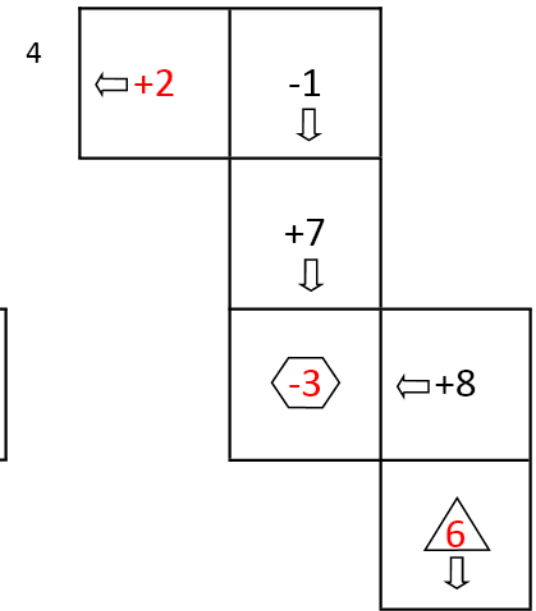
$$3+3+7=13=M$$



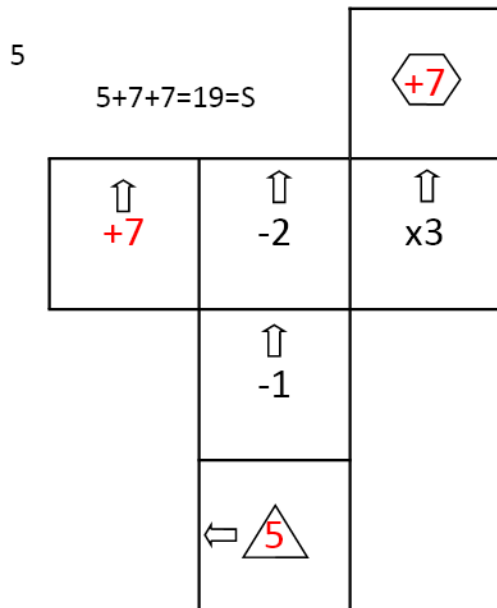
$$5+3-4=4=D$$



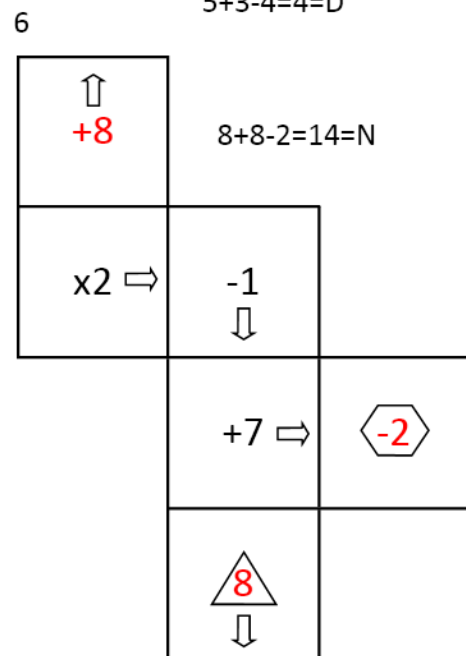
$$7 \times 2 + 1 = 15 = O$$



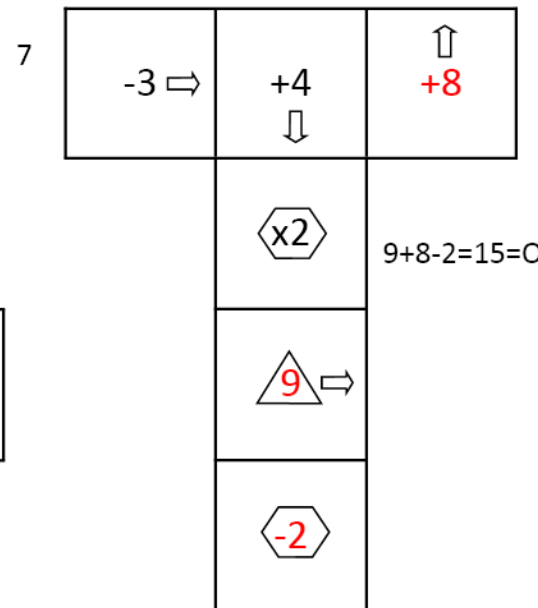
$$6+2-3=5=E$$



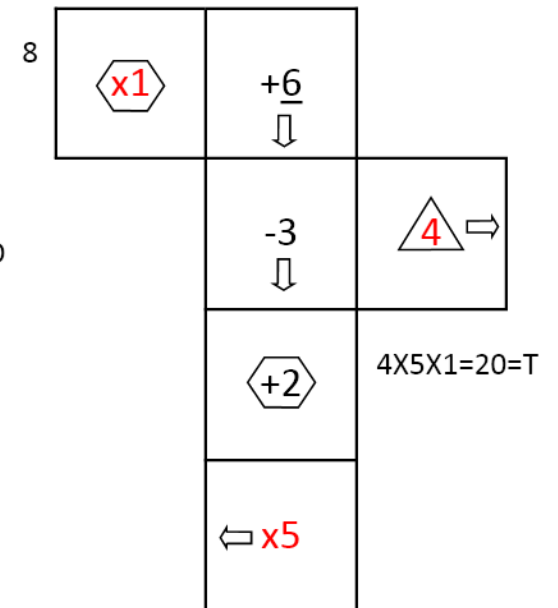
$$5+7+7=19=S$$



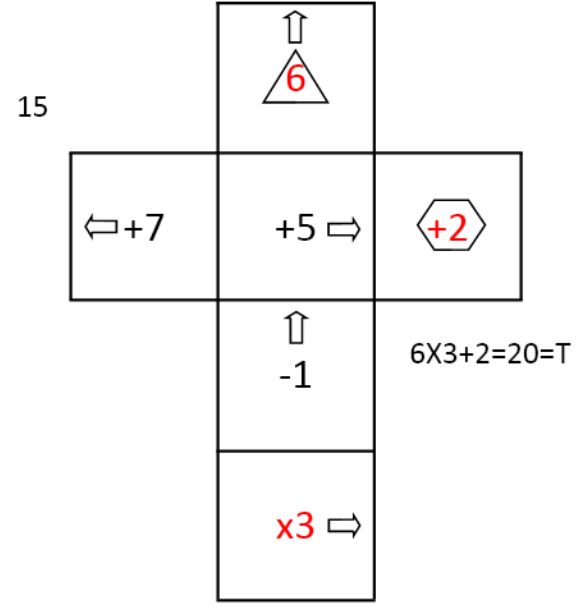
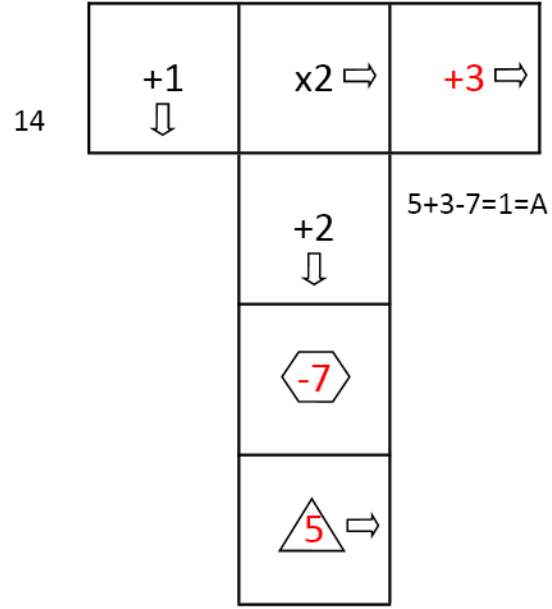
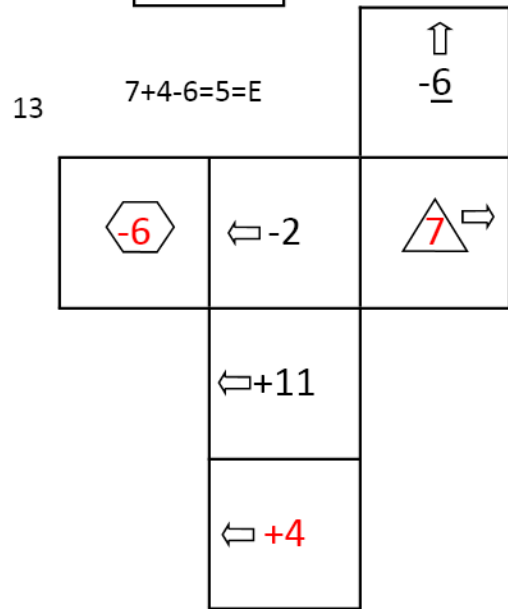
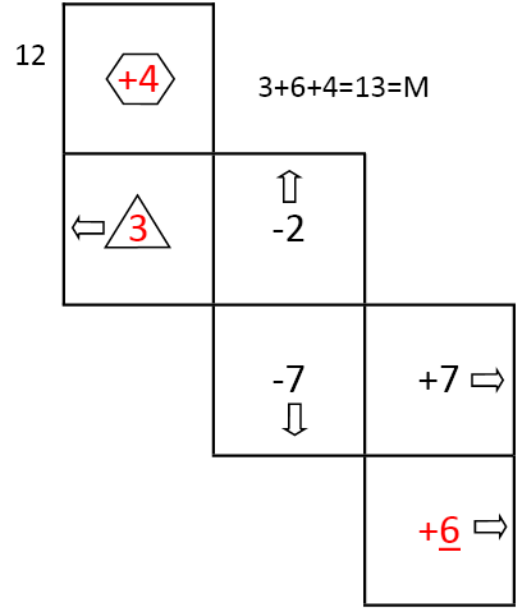
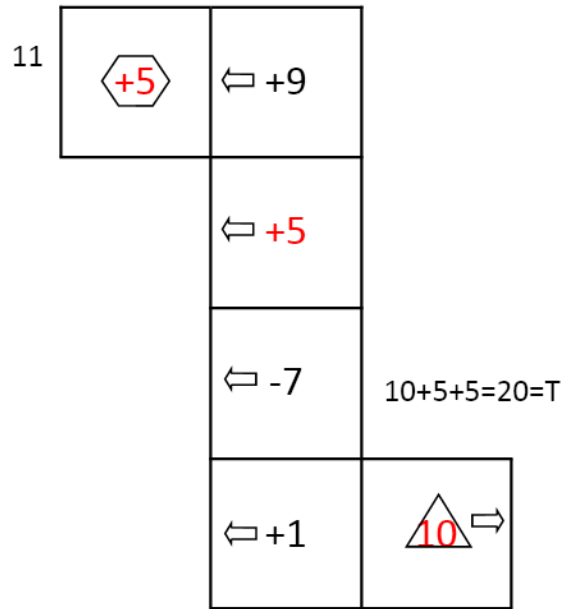
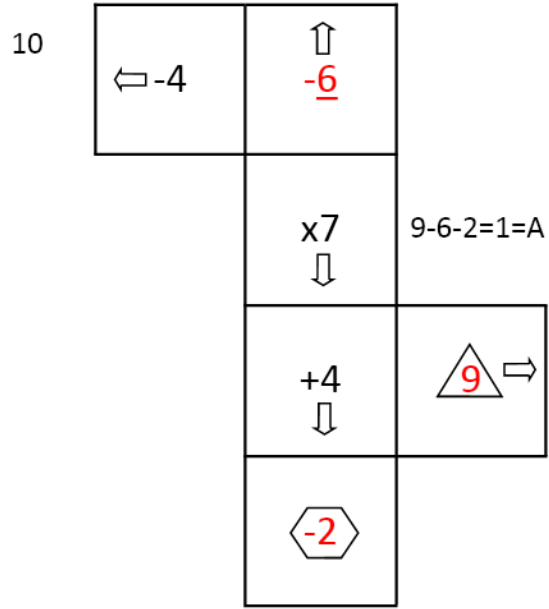
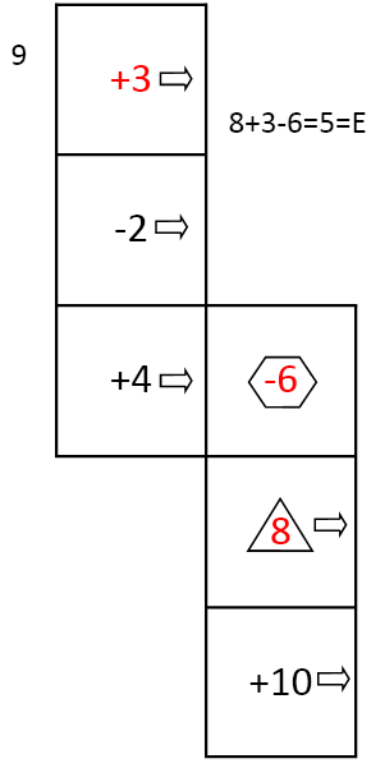
$$8+8-2=14=N$$

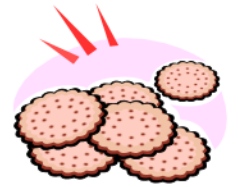


$$9+8-2=15=O$$



$$4 \times 5 \times 1 = 20 = T$$





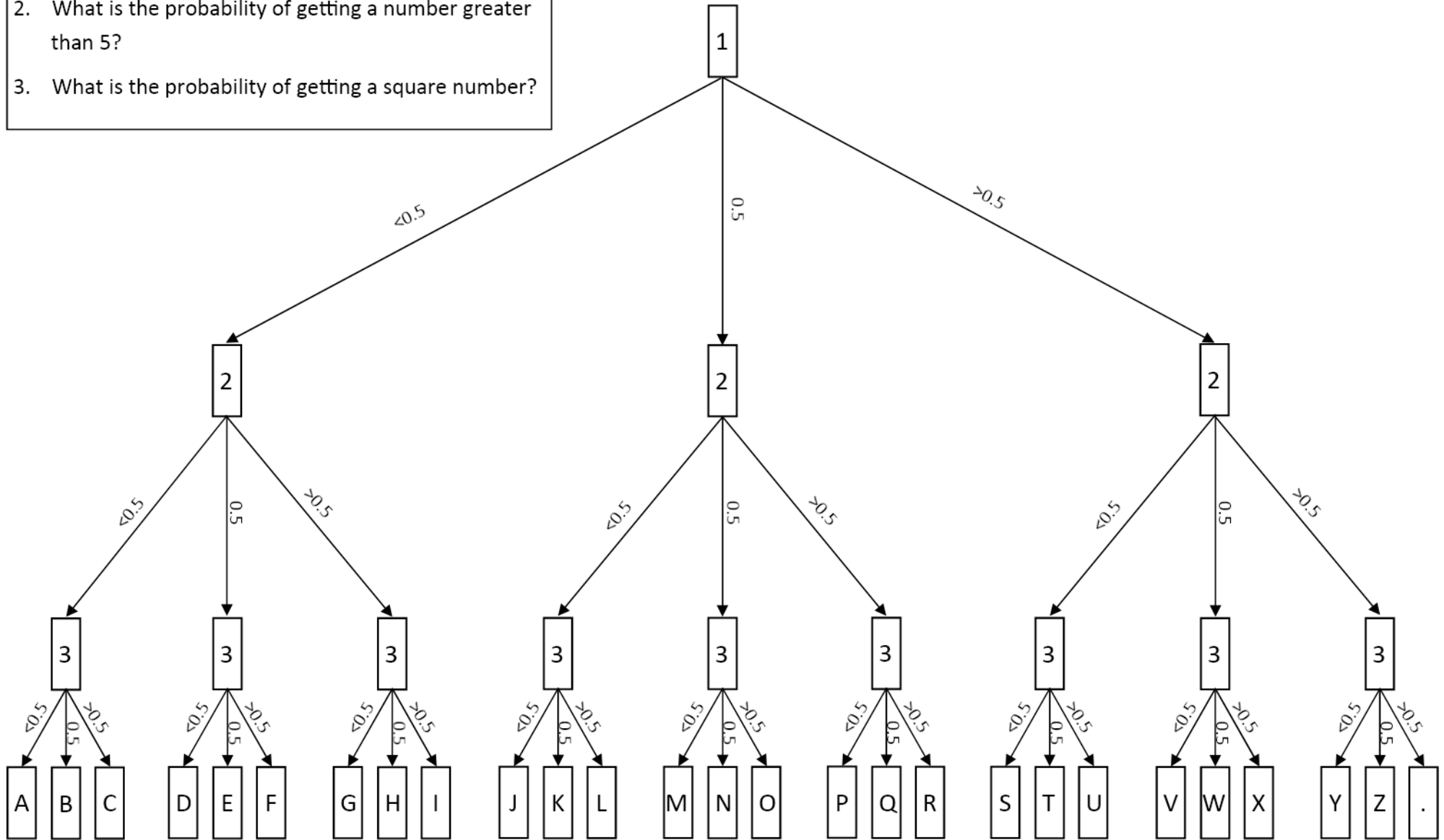
### Clue 3—Horatio's biscuits.

Horatio's biscuits are made with many recipes each with different ratios of ingredients. Find out how many grams of cherries are needed for each recipe and then divide that by 10. Then decode (a=1, b=2, c=3 etc)

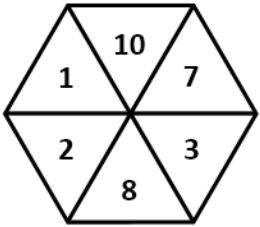
dates	almonds	cherries	sugar	butter	Total weight	Cherries g	letter
1	3	4	2	2	390	130	M
1	2	1	3	3	400	40	D
4	2	5	5	4	600	150	O
1	1	1	1	1	250	50	E
1	1	4	1	1	380	190	S
	4	5	2	4	420	140	N
2	4	6	3	3	450	150	O
3		2	3	4	1200	200	T
2	5	7	5	2	570	190	S
	3	2	1	4	600	120	L
4	5	2	8	1	500	50	E
4	6	1	8	1	1000	50	E
	1	3	2	3	480	160	P
2	3	2	3	2	540	90	I
3	2	4	5	2	560	140	N
5	3	3	6	4	70	10	A
4		5	3	3	660	220	V
2	3	2	2	3	60	10	A
1	1	1	1	1	700	140	N
	6	2	3	3	490	70	G
3	4	3	4	4	900	150	O

### Clue 4—the odds are against you!

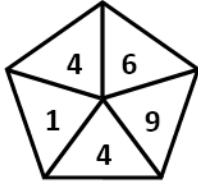
1. What is the probability of getting an odd number?
2. What is the probability of getting a number greater than 5?
3. What is the probability of getting a square number?



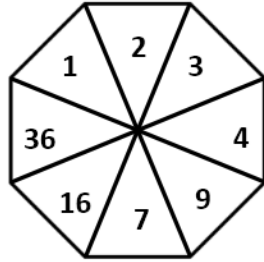
M



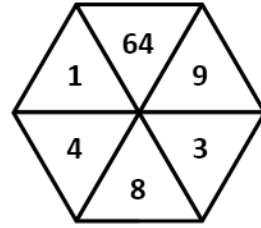
C



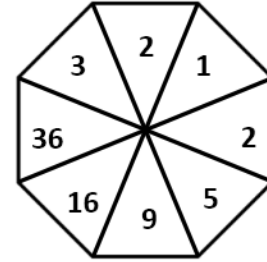
O



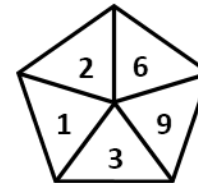
O



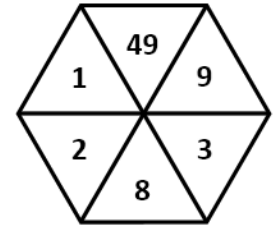
K



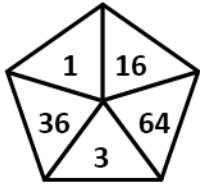
S



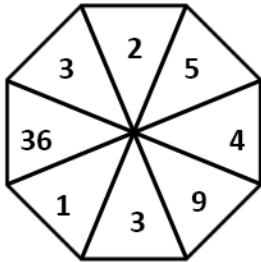
W



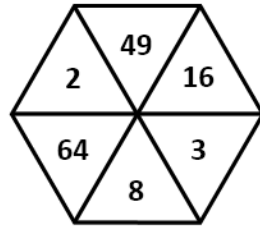
I



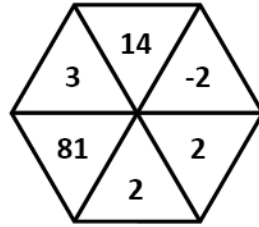
T



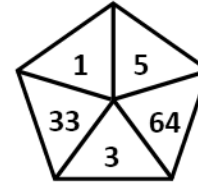
H



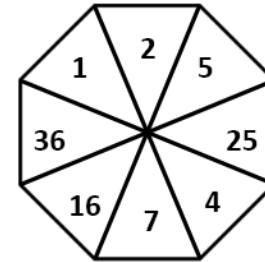
A



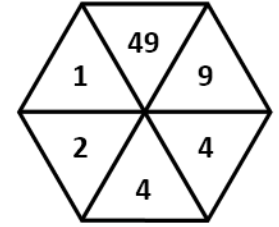
S



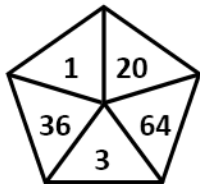
O



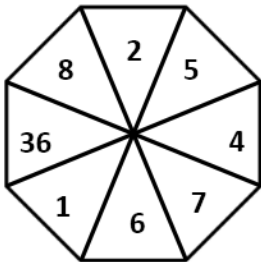
L



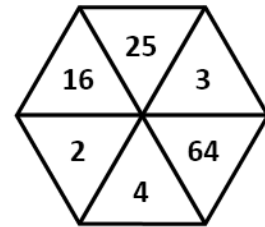
I



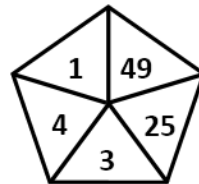
D



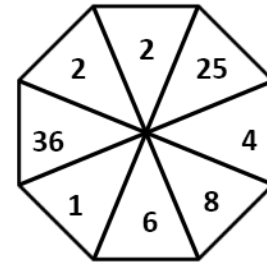
F



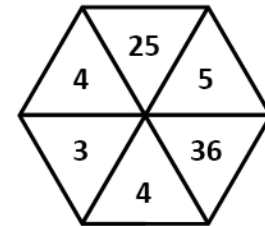
U



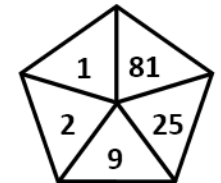
E



L



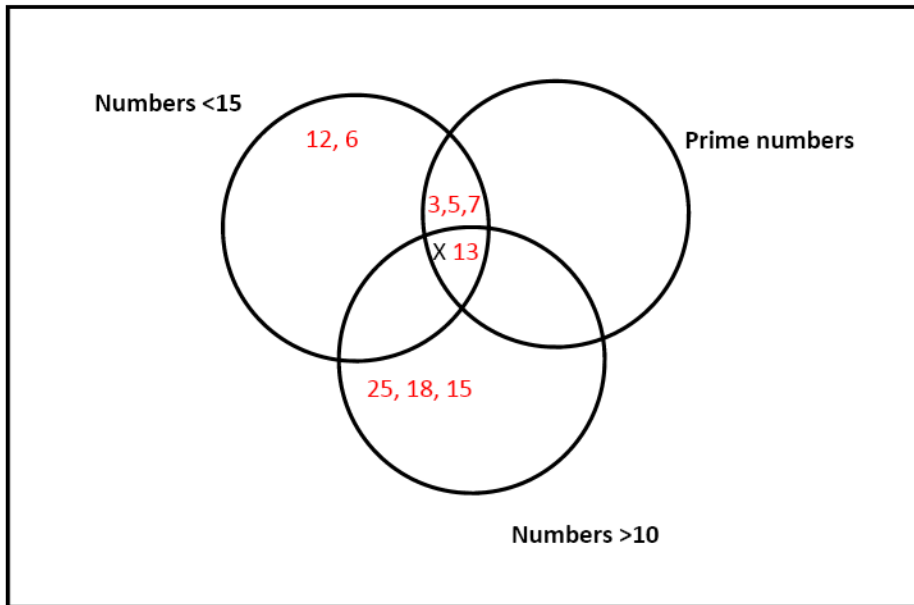
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### Clue 5—Venn diagrams

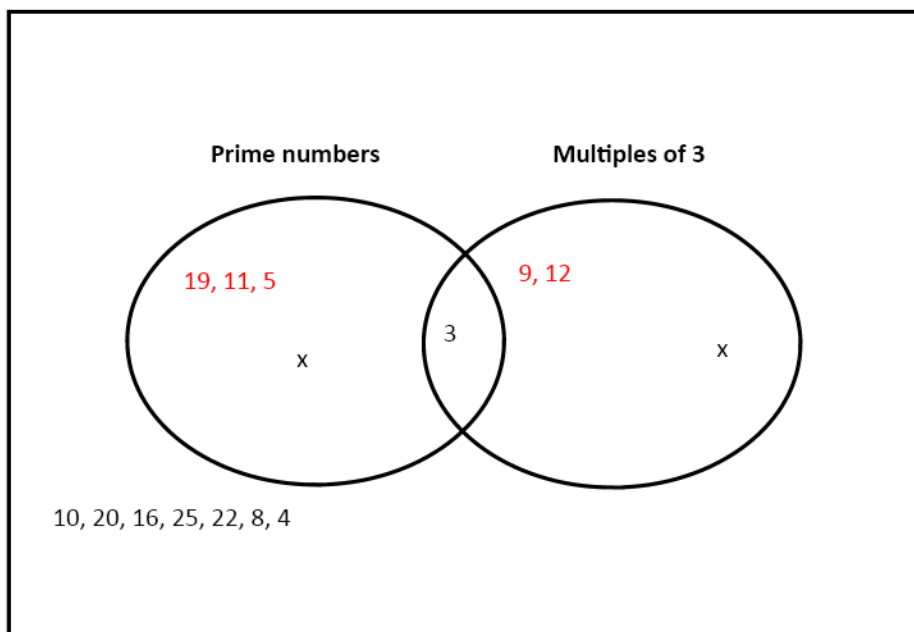
Each Venn diagram will give you the jumbled up letters for one word. Put the numbers into the Venn diagrams. Take the numbers in the section(s) marked x and decode them (a=1, b=2, c=3 etc). Rearrange the letters to make a word.

1) 3, 13, 5, 6, 18, 25, 7, 15, 12



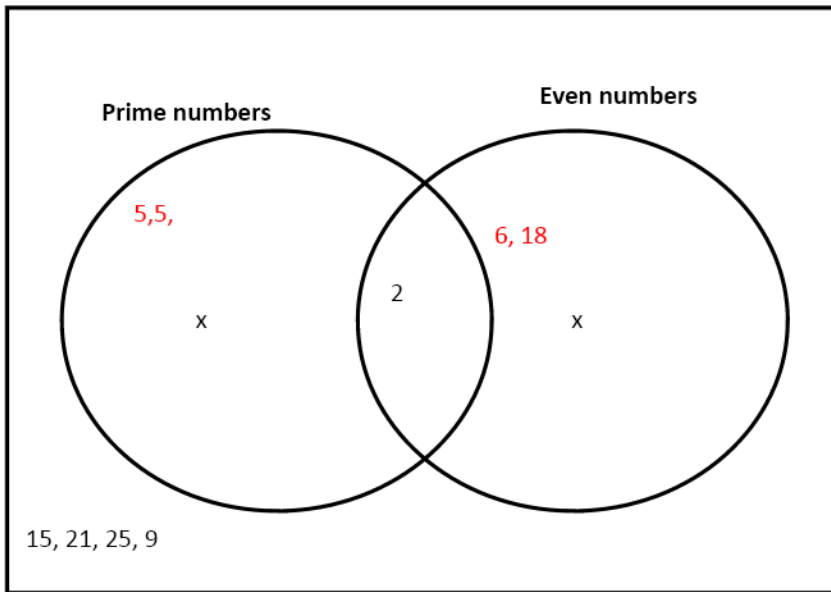
13 = M

2) 10, 5, 9, 20, 16, 19, 11, 25, 22, 4, 8, 12, 3



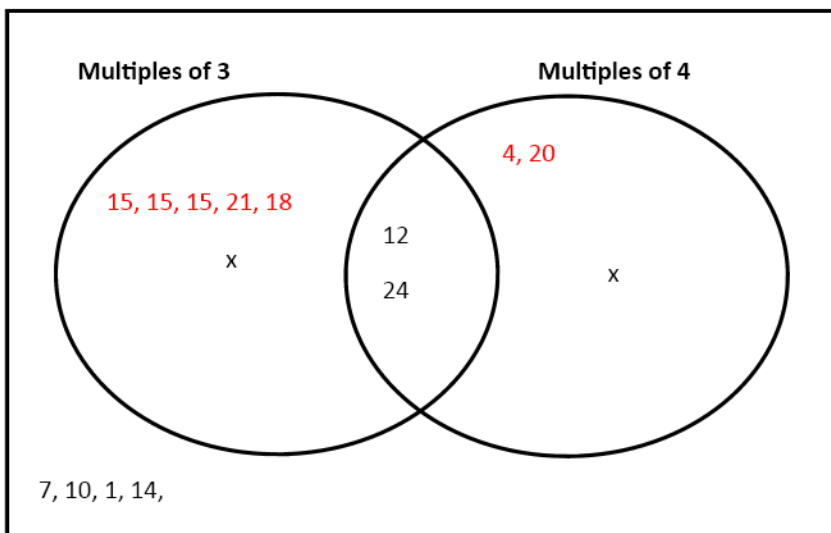
12, 9, 11, 5, 19 =  
LIKES

3) 2, 5, 9, 6, 15, 18, 5, 21, 25



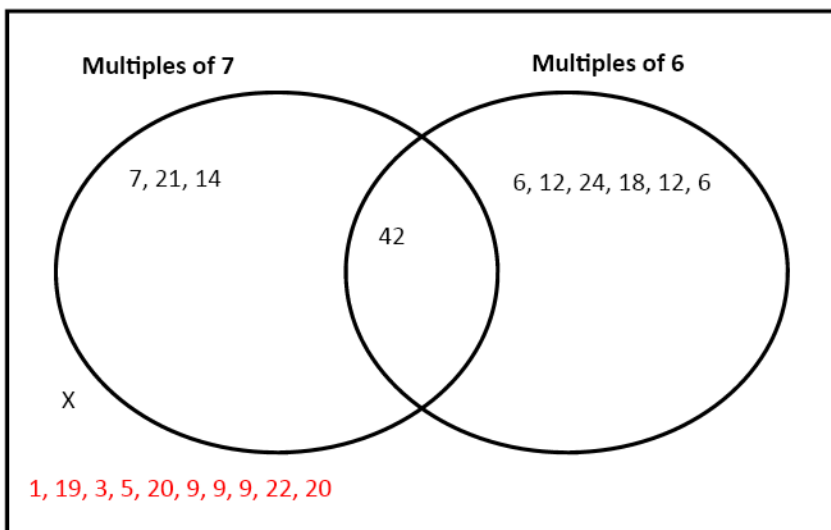
6, 18, 5, 5 = FREE

4) 15, 7, 18, 15, 10, 4, 1, 15, 14, 20, 21, 12, 24



15, 21, 20, 4, 15, 15, 18 =  
OUTDOOR

5) 1, 14, 12, 19, 42, 3, 18, 5, 24, 20, 21, 9, 6, 9, 12, 20, 9, 7, 22, 6



1, 3, 20, 9, 22, 9, 20, 9, 5, 19 =  
ACTIVITIES