

GEOMETRICAL WORDS: PART 2

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Part 1 of *Geometrical Words* looked at words whose letters can be arranged to make a triangle or a set of triangles. Part 2 looks at words whose letters can be arranged to make other geometrical shapes. As with triangles, the letters along the edge of these shapes may form **edge words** (**MET**, **HER** and **SON** below).

----- RHOMBUSES -----

The letters of **MEET**, **HERE** and **SOON** occur in the ratio 2:1:1; each word makes a 4-letter rhombus:

M	H	S
E E	E E	O O
T	R	N

The letters of **STUTTERER**, **FETTERERS** and **ATTESTERS** occur in the ratio 3:2:2:1:1 and each word makes a 9-letter rhombus. The letters of **HARDHEADEDNESSES** occur in the ratio 4:3:3:2:2:1:1 and make a 16-letter rhombus:

U	F	A	R
R R	R R	S S	S S S
T T T	E E E	T T T	E E E E
E E	T T	E E	D D D
S	S	R	H H
			N

9-letter rhombuses can also be made from **ADDRESSES**, **BOOBOISIE**, **DETERRENT**, **GEORGETTE**, **QUISQUOUS**, **RETITRATE**, **STEELEST**, **TENEMENTS**, **TEST TUBES** and **ET TU, BRUTE**.

16-letter rhombuses can also be made from **PERIURETERITISES** and **ATTENDANCE CENTRE**.

Just as some words make sets of triangles, other words make sets of rhombuses. A 32-letter word was the longest for which I found a set of rhombuses. Of words with 32 letters or fewer, those with 2, 3, 5, 6, 7, 10, 11, 14, 15, 19 and 23 letters cannot make sets of rhombuses. **Table 2** shows the sets of rhombuses which can, in theory, be made from all other size groups of letters up to, and including, 32. In practice, it depends on the relative number of each of the different letters in the word.

----- SETS OF RHOMBUSES -----

BRAINIER (8)

B	N
R R	I I
A	E

Also: **CHINAMAN**, **SKYLARKS**, **FANDANGO**, **NATIONAL**, **OCCASION**.

ENTERTAINABLE (13)

B	I
N N	T T
L	E E E
	A A
	R

Also: **TEMPERAMENTAL**, **WEATHERCASTER**, **TREATABLENESS** and **CIGARETTE CASE**.

TRANSILLUMINATIONS (18)

O	U
T T	L L
I I I	N N N
S S	A A
M	R

Also: **INTERCOMMUNICATION**.

HEXOSEBISPHOSPHATASE (20)

B	T
P P	O O
I	E E E
	S S S S
	H H H
	A A
	X

Table 4

Possible sets of PENTAGONS from groups of 8 to 26 letters						
Pentagon sizes	A = 3:2:2:1	B = 4:3:3:2:1	C = 4:3:3:2:2:1	D = 5:4:4:3:2:1	E = 5:4:4:3:3:2:1	F = 5:4:4:3:3:2:2:1

	A	B	C	D	E	F
*8	1					
*13		1				
*15			1			
*16	2					

	A	B	C	D	E	F
19				1		
22					1	
24						1
*26		2				

* indicates a set of pentagons for which a word was found

----- SETS OF PENTAGONS -----

OVERNUMEROUSNESS (16)

V
O O
E E E + S R M
N N U U S S R

PROPORTIONAL REPRESENTATION (26)

L S
I I A A
T T T P P P
R R R R + O O O O
E E E N N N

----- HEXAGONS -----

The 7-letter **BARBARA**, **ENTENTE** and **SIMSIMS** make hexagons:

B B N N I I
A A A E E E S S S
R R T T M M

Also: ALFALFA, DESESED, ENSENSE, GREGREE, HATHATH, KREEKER, PREPREP, REDDERE, RENNERE, SARSARS, SEMSEMS, SOUSOUS, TENENTE, TZITZIT and UBUBBOO.

HOOCHYCOOCHY (12) and its variant **HOOCHIECOOCHIE** (14) both make hexagons:

Y Y E E
H H C C C C
O O O O O O
C C C I I

Also: COCCIDIOIDOSIS (14).

Table 5

Possible sets of HEXAGONS from groups of 7 to 14 letters			
Hexagon sizes: A = 3:2:2 B = 4:3:3:2 C = 4:3:3:2:2			

	A	B	C
*7	1		
*12		1	

	A	B	C
*14			1
*14	2		

* indicates a set of hexagons for which a word was found

----- SETS OF HEXAGONS -----

HEPTANAPHTHENE and **SUPPOSITIOUS**, with 14 letters, make pairs of equal-sized hexagons:

```

  P   P           T   T           P   P           U   U
E   E   E   +   H   H   H       I   I   I   +   S   S   S
  N   N           A   A           T   T           O   O

```

Also: HOIGHTYTOIGHTY.

----- EGGTIMERS -----

Another shape which cries out to be made is a 2-dimensional representation of an eggtimer in which two triangles, one inverted, share a single letter (Table 6).

PAPAL (5) and **IMMENSENESS** (11) make eggtimers:

```

      A   A           S   S   S
      L           M   M
      P   P           I
                       N   N
                       E   E   E

```

Other 5-letter eggtimers: ALGAL, BOOBY, COCOA, DODOS, ERRED, FIFIE (an old type of Scottish herring fishing boat), GIGLI (the tenor), HOOCH, ILIAL, JUJUS, KAFKA (Franz, the Czech novelist), LLAMA, MIAMI, NOONS, ONION, POOPS, QAZAQ (one of a Turkic people of central Asia), ROORE (old word for roar), SENSE, TETHE (an old word for tithe), UPUPA (a genus of hoopoe bird), VIVID, WAWAG (an old Scots word for voyage), XANAX (a brand of alprazolam used in the treatment of certain anxiety states), YUMMY and ZANZA (an African musical instrument).

Other 11-letter eggtimers: APPEASELESS, CATASTATICS, ITATARTARIC, OCTAACETATE.

Table 6

Possible sets of EGGTIMERS from groups of 5 to 26 letters
Eggtimer sizes: A = 2:2:1 B = 3:3:2:2:1 C = 4:4:3:3:2:2:1

	A	B	C
*5	1		
*10	2		
*11		1	
*15	3		
*16	1	1	
19			1

	A	B	C
*20	4		
*21	2	1	
*22		2	
*24	1		1
*26	3	1	

* indicates a set of eggtimers for which a word was found

----- SETS OF EGGTIMERS -----

MILLENNIUM (10)

```

  M   M           L   L
    E   +       U
  N   N           I   I

```

Also: CONTRITION, POLYPLOIDY.

PROCTOCYSTOPLASTICALLY (22)

```

  O   O   O           C   C   C
    P   P           A   A
      I           +   R
    S   S           Y   Y
  T   T   T           L   L   L

```


PESTILENTIALNESS (16)

N N S S S
 P I + T T
 I I L L
 E E E

Also: PHOSPHORESCENCES.

CRINKLECRANKLED (15)

K K C C L L
 I + A + D
 N N R R E E

BROMODIPHENHYDRAMINE (20)

R R D D O O H H
 P + A + B + Y
 I I N N E E M M

Also: CARDIOSPHYGMOGRAPHIC, CYSTOPYELONEPHRITICS.

HYSTEROSALPINGOGRAPHICALLY (26)

R R S S I I L L L
 E + T + C + O O
 P P Y Y H H G G A A A

----- **GAME, SET AND MATCH** -----

1. A few of our geometrical sets have been made from phrases. This suggests a **GAME** particularly suited to filling those odd spare moments. Try to find the title of a film or book, a proverb, quotation, person's name etc., the letters of which will arrange into a set of geometrical shapes. For example, the title of Evelyn Waugh's novel **UNCONDITIONAL SURRENDER** can be made into five triangles...

S + T + A + L + R E E
 U U I I D D O O N N N N

... whilst Alexander Pope's maxim that **FOOLS RUSH IN WHERE ANGELS FEAR TO TREAD** makes a different combination of five triangles:

D + G + U I O O H H
 L L F F A A A S T T + R R R R
 E E E E E

2. The number of words and phrases suitable for making a **SET** is increased if we allow sets which include different geometrical shapes. In this way the carol **HARK THE HERALD ANGELS SING** can be made into three triangles and an egg-timer...

D T K R R
 N N + S S + L L + I I
 A A A H H H E E E G G

... whilst **EGGTIMER AND TRIANGLES** portrays itself:

```

  G   G   G
    I   I
      L
    T   T   +   S       +   D       +   M
  E   E   E           N   N           A   A           R   R

```

Here are two puzzles. Each ? indicates a missing letter and each completed set of geometrical shapes spells the title of a well-known film. What are the two films?

```

          O           F           I
        H   H       +   A   A       +   ?   ?   ?
      ?   ?   ?           ?           E   E   E   E
          ?           ?           ?           ?           ?
        I   I           H   H           ?   R   R
      ?   ?   ?       +   ?   U       +   ?   ?   ?
  E   E   E   E       +   S   S           C   C
          ?           ?           ?           ?           ?
        D   D           K

```

Answers can be found in **Answers and Solutions**.

3. Sometimes the letters of the same word, or phrase, are capable of making more than one combination of geometrical shapes. Here is a set composed of a triangle and assorted egg timers...

```

          N   N   N
            O   O
          M   P
        R   R   +   G   G       +   T   T
      A   A   A       C   C       +   Y   L   +   I   I
          E   E   E

```

...whilst this set consists of a triangle, rhombus, trapezium, pentagon and hexagon:

```

          P
        R   R       L   L
      M   +   O   O   +   I   I   +   A   A   A   +   E   E   E
  C   C       Y       N   N   N       T   T       G   G

```

But the letters of these two sets **MATCH** and the word which makes each set is **ROENTGENCINEMATOGRAPHICALLY** (27).

Finally, is **DIKETOHYDRINDYLIDENEDIKETOHYDRINDAMINE** (38) unique? It is the only word I found which can be made into a set of shapes which include a 7:6:5:4:3:2:1 triangle:

```

          L
            K   K
          Y   Y   Y
        N   N   N   N
      H   H       E   E   E   E   E
    A   +   I   I   I   I   I   I   +   R   R
  T   T       D   D   D   D   D   D       O   O

```

Most of the geometrical words which I have used can be found in The Oxford English Dictionary and/or Stedman's Medical Dictionary. The rest are taken from Webster's Second Edition, Webster's Third Edition, Random House Dictionary, Collins English Dictionary, Chambers English Dictionary, OSPD, Dorland's Medical Dictionary, Cooper's Archaic Dictionary, Hamlyn Encyclopedic World Dictionary and Nomenclator Zoologicus.

ANSWERS: SNOW WHITE AND THE SEVEN DWARFS

O
 H H H + A A + I D S
 W W W R E N E N E
 T V

CLOSE ENCOUNTERS OF THE THIRD KIND

L
 T T T + H H + F P
 E E E S U R O R R
 N N N S S O O O
 D D C C K