❄ Christmas Puzzlehunt ❄

The answer to each puzzle is a word or small phrase - it's up to you to work out how to get there! In order to solve the meta puzzle, you will need to use the answers from the previous puzzles. Non-meta puzzles can be done in any order but for convenience they are given below in ascending order. You may use the internet or any other resources whenever and however you want.

If you get stuck on a puzzle, consider trying another puzzle and coming back to it with fresh eyes. You could also consider the following:

- Are there any clues in the title or accompanying text?
- Is there part of the main puzzle you haven't used yet?
- Have you considered braille, morse code, semaphore and other encryptions?
- Have you talked to someone about the puzzle? Two heads are better than one!

Carol Singers [1]

α) _____

Transmute Transmute [1]

β) _____

Times With Royalty [4]

γ) _____

Labyrin Th Reat [4]

δ) _____

Measurement [4]

ϵ) _____

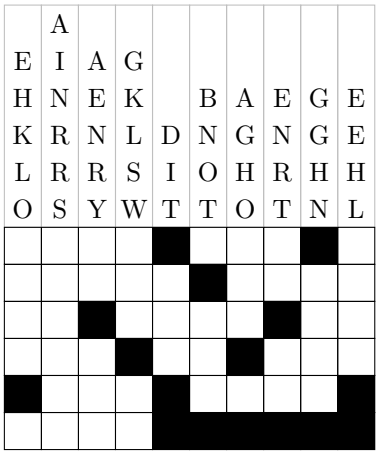
No Q. [4]

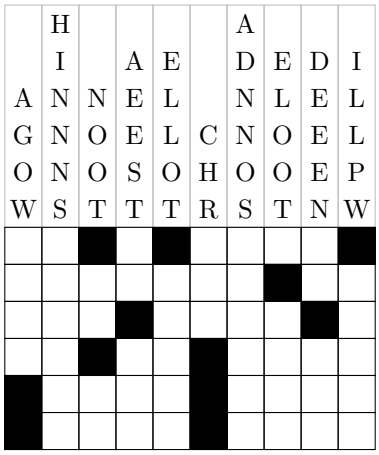
ζ) _____

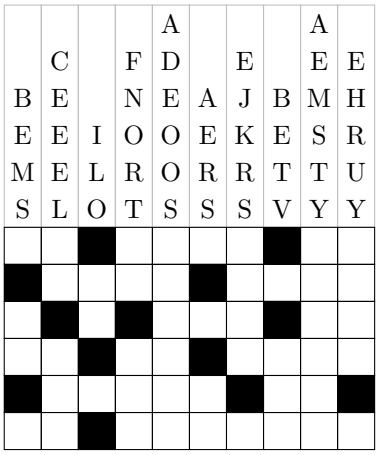
Advent Calendar - Meta

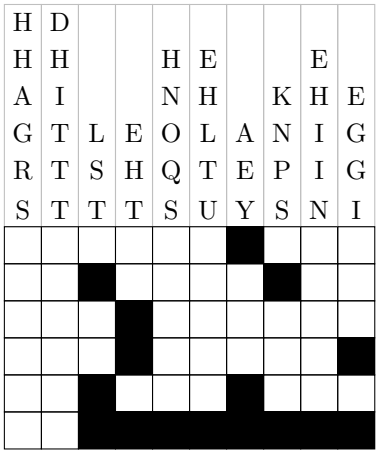
_____

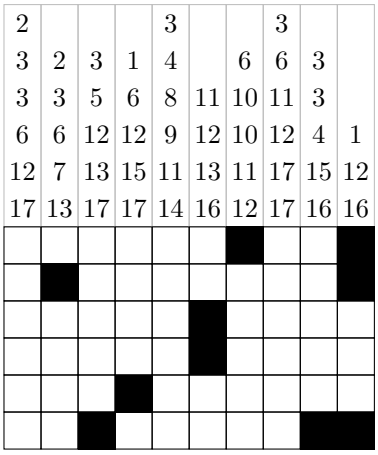
❄ Carol Singers ❄

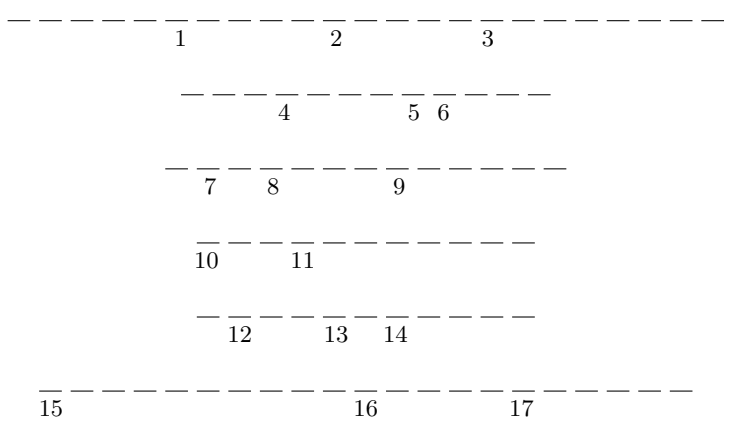












❄ Measurement ❄

acRe, cables, celcuis, centimetre, cHains, Days, decadEs, fahrenHeit, farthings, faThoms, feet, florin, fluiDounces, fortnight, furlongs, gill, grAms, hoUrs, kilogram, leagues, Miles, millenium, millimetreS, miNutes, ounces, perches, pints, pOund, seconds, Shillings, sixpencE, stonEs, taBlespoons, tons, weeks, yarD

(-40, -40) (1, 1) (1, 2) (1, 3) (1, 5) (2, 6) (1, 10) (1, 16) (3, 21) (1, 24) (3, 30) (3, 96) (1, 100) (1, 160) (4, 240) (3, 300) (1, 336) (4, 640) (1, 1000)

□ = □ _____ _____ □ = □ _____ _____ □ = □ _____ _____	□ = □ _____ _____ □ = □ _____ _____ □ = □ _____ _____
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□ = □
_____ _____

❄ Times With Royalty ❄

$3, 43, 46831$	__ __ __ __ __ __ __ __
$571, 49057$	__ __ __ __ __ __
$31, 173, 4481$	__ __ __ __ __ __ __ __ __ __
$2, 2, 2, 2, 2, 7, 41, 2179$	__ __ __ __ __ __ __
$2, 107, 14447$	__ __ __ __ __ __ __
$5, 1204337$	__ __ __ __ __ __ __ __
$2, 3, 53, 191, 463$	__ __ __ __ __
$2, 5, 605191$	__ __ __ __ __ __ __

❄ No Q. ❄

actors (7)	cute (5)	elapse (4)	mega (4)	order (3)
aim (3)	deal (1)	emoting (4)	neaten (3)	park (1)
alleys (2)	east (5)	hair (5)	nights (7)	-ray (3)
allowed (8)	eighty (6)	honey (2)	omits (6)	victor (7)
argon (5)	either (1)	ions (5)	one (4)	win (1)

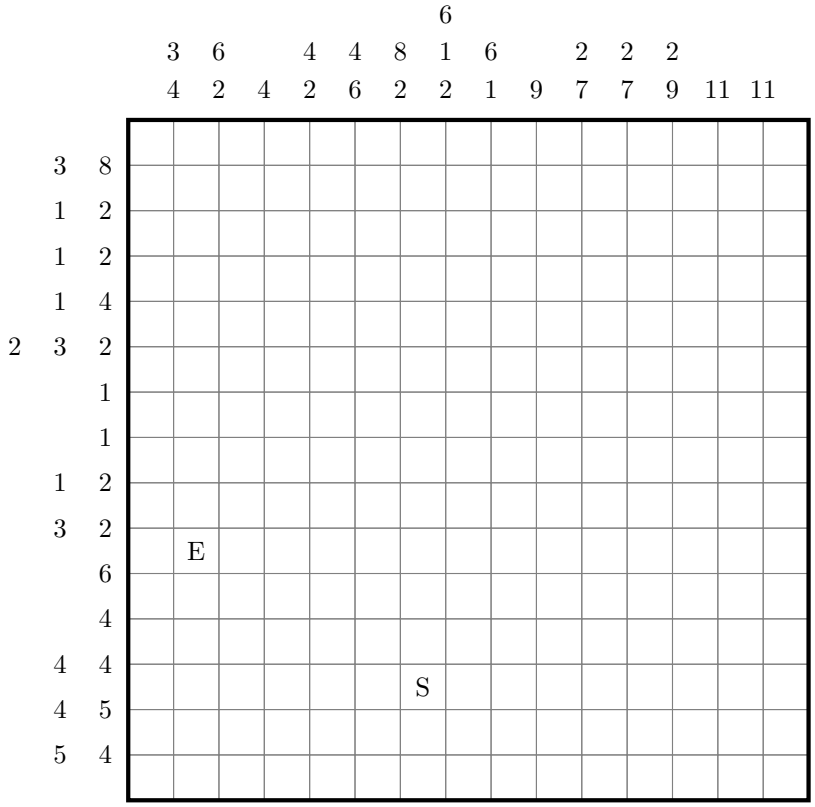
❄ Transmute Transmute ❄

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26

$A + F = I$	$A + U = G$	$B + D = J$	$C \times L = K$	$C + K = R$
$D \times V = W - R$	$K + M = E$	$I + V = G$	$L + Z = J$	$M + X = O$
$N \times Q = J$	$N + S = Z$	$P + V = S$	$R + Y = S$	$T \times Y = H$

❄ Labyrin Th Reat ❄

The numbers on the outside of the grid represent hedges along the grid lines. Create a hedge maze from the **S**tart to the **E**nd passing through each cell once. Additionally, once the maze has been constructed, place the answer to each of the clues into the grid.



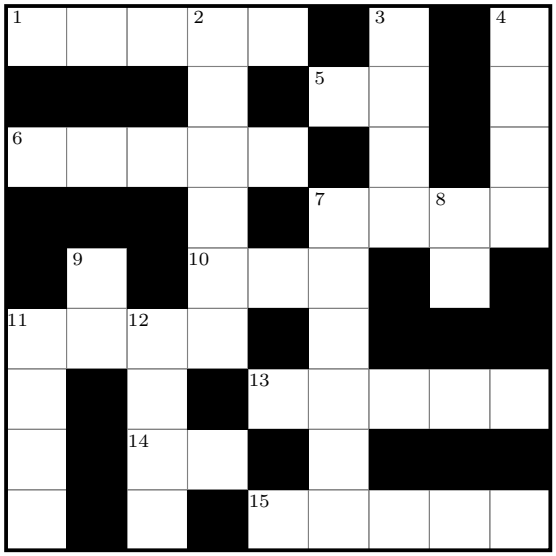
Maths topic (7)
State of worry (7)
Made from clay (7)
Strong box (5)
Mid-sentence break (5)
Bike rider (7)
Type of government (9)
Senior journalist (6)
Letter holder (8)
Destroy completely (9)
Activity using physical effort (8)
Decorate e.g. with parsley (7)
Army rank (7)
Plant eater (9)
Tentative guess (10)

Sportsman on frozen water (9)
Carbon 13 e.g. (7)
Big (5)
Fizzy citrus drink (8)
Holds many fire starters (8)
Chain of jewelry (8)
8th planet (7)
Dragonfly larva (5)
Last greek letter (5)
Using a web browser (6)
Child without parents (6)
Contradictory figure of speech (8)
View point (11)
Camera picture (5)
Governed by chance (6)

Unconcious response (6)
Range of skills (10)
Look for (6)
Sword holder (7)
Edible marine mollusc (9)
Smooth, made more efficient (11)
Leave speechless (4)
Out of the blue (6)
Mexican spirit (7)
Cigar ingredient (7)
Red fruit (6)
Opressive rule (7)
Not reliable (13)
One of your 5 a day (9)

❄ Advent Calendar ❄

The integer answer to each of the clues below must first be converted before it is entered into the grid. There are three distinct methods of conversion.



Across

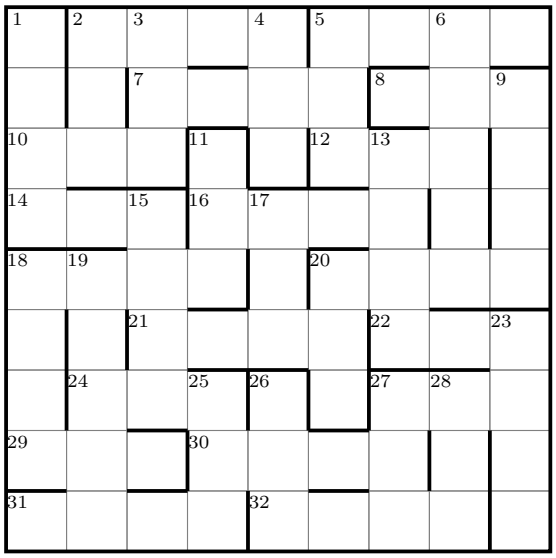
1) Ten minus three
5) -100 + 1000
6) One plus two
7) 1*40000 + 3*4000 + 11*400 + 2*40 + 14
10) -50 + 1000
11) 9*7000 + 1*700 + 7*70 + 1*7 + 6
13) twelve multiplied by five
14) 10 + 1
15) Two cubed

Down

2) 16*900000 + 11*90000 + 6*900 + 14*9 + 5
3) -10 + 1000
4) Square root of eighty one
7) -2 + 500 + 60
8) 7*20 + 14*2 + 3
9) 5*30 + 6*3 + 2
11) Twenty divided by five
12) -5 + 200 + 20

❄ Advent Calendar ❄

There are 25 special boxes in the grid which are to be found. Once the grid has been completed, use the special boxes to see what's inside the advent calendar.



Across

2) The square of a power of 2 [5]
5) $(?5)^3 + 33$ where ? is a digit to be found [5]
7) A palindrome divisible by 9 [5]
8) $(2?)^2$+ Alpha where ? is a digit to be found [3]
10) This number is of the form xyxyz where x>y>z are digits [3]
12) 100 more than a cube [3]
14) A square who's digits sum to 16 [3]
16) $(1XY)^2$ where X and Y are distinct digits that sum to 10 [5]
18) 83 less than a cube [6]
20) The first three digits are odd, the last three are distinct squares [6]
21) 2 more than a power of 2 [4]
22) A multiple of 7 [3]
24) 1 less than a square [3]
27) A palindrome [4]
29) 123 more than a cube [3]
30) The second and fourth digit are the same, the third and last digit are also the same [5]
31) The first three digits form a square and sum to square. The last 3 digits sum to 9 with the fifth digit being the average of the fourth and sixth digit [6]
32) Removing either the first or second digit leaves a palindrome [7]

Down

1) This number doesn't contain a 0, and is 1000 more than a cube [5]
2) The sum of the first four digits is equal to the fifth digit [5]
3) The difference between the first two digits is 6 [4]
4) A multiple of 613 [4]
5) A power of 2 [4]
6) The sum of the last two digits is equal to the fifth digit, the remaining digits sum to 11 [7]
9) (X80)×(X77) where X is a digit to be found [5]
11) Contains no repeated digits and the first two digits sum to the last digit [4]
13) Delta [4]
15) Zeta [4]
17) The first and third digit are the same, the second and fourth are the same [4]
18) Gamma [4]
19) The first and second group of three digits sums to the last digit which is a perfect number [7]
20) Beta less than a square cube [5]
23) Epsilon [4]
25) The first three digits of this square sum to one more than the last digit [4]
26) A multiple of 117 [5]
27) 135 more than a cube number [3]
28) $(1?9)^2$ where ? is a digit from 1 to 9 [5]