

## Answer sheet for N6 (c)

Written by NHA

Friday, 08 February 2013 17:08 - Last Updated Friday, 08 February 2013 17:12

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### Answers for N6 (c)

#### 1 Ride home -maximum 4 points

Answer: You ask your friend to drive the old lady home in your van. After helping the old lady into the van, you can arrange to meet your friend later, and wait with the sexy individual for the bus.

If you suggested this strategy in your own words, you get 4 points

If you suggested giving the attractive person or the old lady a ride, you get 2 points

If you suggested giving your friend a ride, you get one point

#### 2 Decode these -you get one point for each correct message -maximum 6 points

(a) 'welcome to our code puzzle' (the sentence is written backwards)

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(b) 'the spy is wearing a blue coat' (the sentence is split into groups of three letters then each group is written backwards)

(c) 'you have cracked this code' (the sentence is split in half, then the letters in the second half are written in between the letters in the first half)

(d) 'we will attack at sunset' (the sentence is split into groups of four letters and a dummy letter inserted in the middle of each group)

(e) 'this message is top secret' (the sentence is split into groups of three letters (inserting a couple of dummy letters at the end), and the groups of letters are mixed up -in this case the permutation is 12345678 > 36827514 )

(f) 'now you can make up your own codes' ( the sentence is split into groups of four letters (inserting a dummy letter at the end) and the middle two letters in each group are swapped round)

**3 How many meanings** -maximum five points

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1-9 meanings you get 1 point

10-19 meanings you get 2 points

20-29 meanings you get 3 points

30-39 meanings you get 4 points

40-49 meanings you get 5 points

**4 3-pipe problems** -you get one point for each case correctly solved -maximum 4 points

**case1**

The murderer was the mother.

We know from (3) that the youngest person was not the victim, from (4) that the youngest person was not the helper and from (6) that the youngest person was not the killer. The youngest person can only have been the witness therefore. If we make up a chart there are now three possible combinations:

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Oldest person (father) H H M

Next to oldest (mother) V M H

Next to youngest (son) M V V

Youngest (daughter) W W W

(H = Helper ; V = Victim ; M = Murderer ; W = Witness)

We can work out from (5) that the father was the oldest, from (2) that the youngest person must have been the daughter. Therefore the next to the youngest must have been the son and the next to the oldest, the mother.

Of three possibilities: the first is impossible (from (3) – the youngest person and the victim were of different sexes); the third is also impossible (from (1) – the witness and the helper were of different sexes). Therefore only the second possibility holds – and the mother was the murderess

### Case 2

The killer was Donna.

The initial letters of the names of the rooms where the notes were found spell out her name.

### Case 3

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The gang boss is Billy Goats.

If you read the message upside down you'll notice that it reads: "Bill is boss. he sells oil";

### Case 4

Alice arrested him right away because there was no way he could have known where the body was unless he'd put it there -she hadn't revealed this in the conversation.

### 5 Coconut confusion -you get one point for the correct answer in your own words

The question is a trick that doesn't make sense. What is given should equal what is received. It does not make sense to add what was given by Alice's tribe (12 coconuts) to what was stolen by the trader (2 nuts).

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Although they initially gave 15 coconuts, the total the three men ultimately gave is 12, as they get three ones back. So from the 12 Alice's tribe gave, the chief receives only 10 and the trader receives the 2.  $15 - 3 = 10 + 2$

### 6 Boomerang balls -you get one point for this correct answer

Throw it straight up in the air

### 7 odd one out -you get one point for this correct answer

Cyclops.

Why? Because the other names don't have any repeated letters

### 8 The Matrix has you -you get one point for this correct answer

You carefully cut each of the three pills in half, and carefully separate them into two piles, with

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half of each pill in each pile. You do not know which pill is which, but you are 100% sure that each of the two piles now contains two halves of type B and one half of Type A. Now go back into the type A bottle, take out a pill, cut it in half, and add one half to each stack. Now you have two stacks, each one containing two halves of type A and two halves of type B. Take one stack of pill-halves today, and save the second stack for tomorrow.

### 9 Here be dragons -you get one point for this correct answer

Carl the Crusher won the contest. (by process of elimination)

Eve the Evil, first born of the king, could not be the winner because the winner was not the king's son or daughter (since the winner and their parents were honored by the King.)

Bob the Bold, whose only weapon was a spear, could not be the winner because the winner used an ax to kill dragons. (Only Donna used two weapons.)

Donna the Dragonslayer, who killed 4 dragons with her ax (and 5 dragons with her spear), could not be the winner because the winner killed more than a half dozen dragons with an ax.

Alice, whose horse was a gelding (castrated horse), could not be the winner because the winner's horse was retired for breeding after the contest.

Carl the Crusher must have killed at least 10 dragons because Donna killed a total of 9. More than a half dozen could mean any number greater than 6, including all those higher than 9.

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### 10 Maze

If you did the maze in less than 3 minutes, you get 6 points

If you did the maze in 3-5 minutes, you get 5 points

If you did the maze in 5-7 minutes, you get 4 points

If you did the maze in 7-9 minutes, you get 3 points

If you did the maze in 9-11 minutes, you get 2 points

If you did the maze in 11-15 minutes, you get 1 point

If you do the maze in an exact number of minutes where the score changes (for example in exactly 7 minutes), take the highest score

**Solution below**

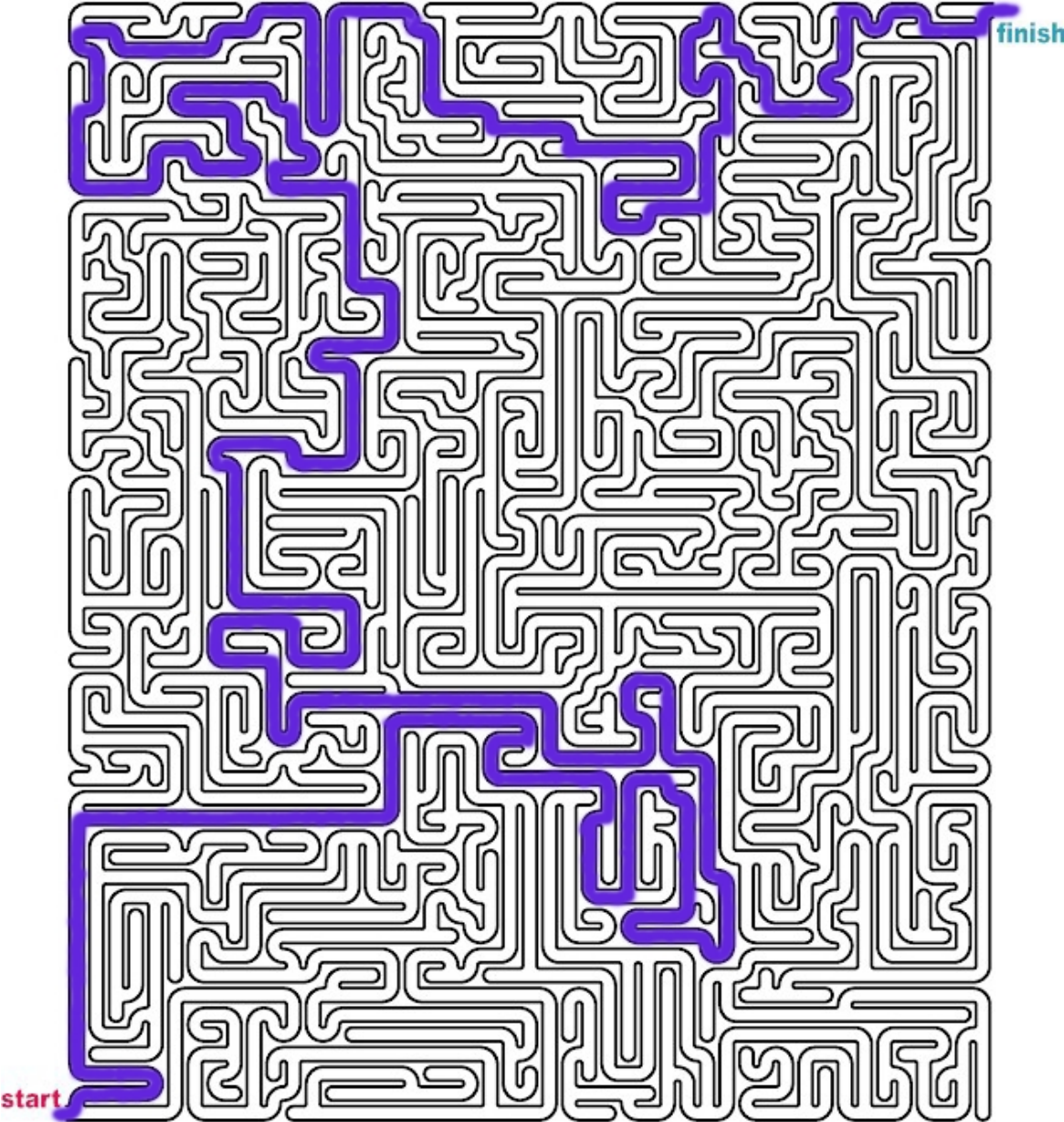


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**11 symbol code** -you get one point for this full correct answer

Forte and Piano

**12 Caesar cipher** -you get one point for this full correct answer

**&quot;JULIUS CAESAR USED THIS CIPHER&quot;**

**A shift of 3 was used in this Caesar cipher:**

**abcdefghijklmnopqrstuvwxy**

**xyzabcdefghijklmnopqrstuvw**

The message can then be decoded as follows:

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MXOLX VFDHV DUXVH GWKLV FLSKH U

JULIU SCEAS ARUSE DTHIS CIPHE R

Therefore, the final plain text solution is &quot;JULIUS CAESAR USED THIS CIPHER&quot;.

**13 Neptune** -you get one point for this full correct answer

neptune equals 1078610

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Hex grid -you get one point for this full correct answer



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15

**complete the series** -you get one point for this full correct answer

16 = 7 and 17 = 9.

The number of letters in the spelling of 16 (sixteen) is 7 and that of 17 (seventeen) is 9.

16

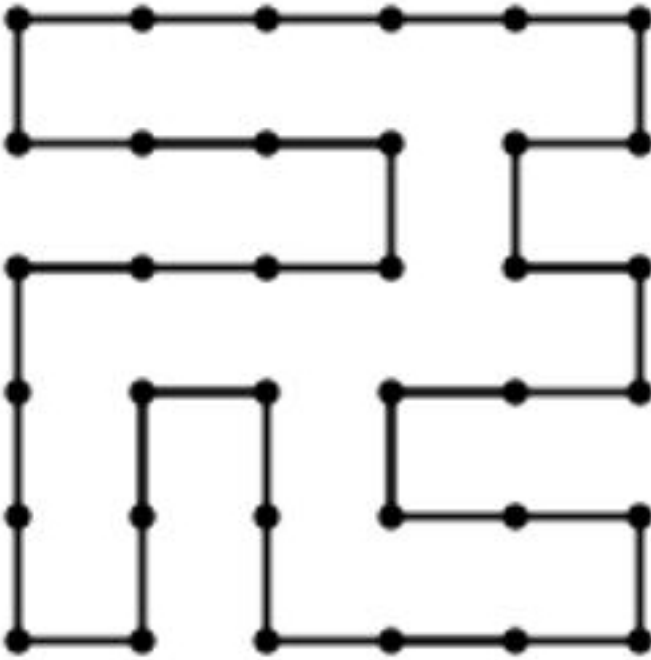
**Square grid** -you get one point for this full correct answer

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**Horny Cowboys** The best course of interaction is to take each others' horses.

you get 1 point for this correct answer.

If you said this in your own words