

NO.	QUESTION															
1	<table border="1"><tr><td>N</td><td>252</td><td>R</td></tr><tr><td>T</td><td>500</td><td>Y</td></tr><tr><td>Y</td><td>400</td><td>P</td></tr><tr><td>K</td><td>132</td><td>L</td></tr><tr><td>G</td><td>182</td><td>?</td></tr></table> Which letter replaces the question mark? A. F B. V C. X D. Z	N	252	R	T	500	Y	Y	400	P	K	132	L	G	182	?
N	252	R														
T	500	Y														
Y	400	P														
K	132	L														
G	182	?														
2	A bag contains 64 balls of 8 different colours. • There are 8 balls of each colour. • It is pitch black, so you cannot see. How many balls would you have to take to be certain of getting at least 3 red balls? A. 48 B. 36 C. 59 D. 29															
3	Which figure is the odd one out?  A B C D E															
4	A card player holds 13 cards of four different types, these being hearts, clubs, diamonds and spades. Hearts and diamonds are red and clubs and spades are black.															

	● Out of the 13, 7 are black. ● Out of the 13, 6 are red. ● There are twice as many hearts as clubs. ● There are twice as many diamonds as hearts. How many spades does the card player hold? A. 4 B. 3 C. 6 D. 8					
5	Buda and Pest are two cities 100 km away from each other. At 1 pm, train A leaves from Buda for Pest and travels at 25 km/h. Two hours later, Train B leaves from Buda for Pest and travels at 40 km/h. When train A arrives, how far is train B from Pest? A. 15 km B. 20 km C. 25 km D. 35 km					
6	I have a 4 -digit code for my mobile phone. All possible two-digit combinations derived out of the adjacent, consecutive digits in the code should be less than 80. My friend tried to guess my code, and he mentioned five possibilities: <table><tr><td>6752</td><td>4563</td><td>7468</td><td>4380</td><td>0975</td></tr></table> If the code is divisible by 3 and does not contain any repetitions, how many of the possibilities mentioned could be the code? A. 1 B. 2 C. 3 D. All of the possibilities E. Not enough information is given	6752	4563	7468	4380	0975
6752	4563	7468	4380	0975		
7	Two letters must be placed in each set of brackets so that they form a word when tacked to the letters on the left and another word when placed in front of the letters on the right. The letters placed in the brackets must produce an eight-letter word when read downwards in pairs. GR(_ _)LE AL(_ _)LD TO(_ _)RK SI(_ _)AR					

What word can be formed?

- A. ABSTRACT
- B. ABSOLUTE
- C. ACHIEVED
- D. ATTITUDE
- E. None of the above

8

Below is a sudoku puzzle. Here are the rules of this game:

- A logo must only appear once in a column.
- A logo must only appear once in a row.
- A logo must only appear once in a 2x2 grid found in each corner.

What logo should be in the question mark?

			
			?
			

- A. 
- B. 
- C. 
- D. 

9

Cullen recently emerged as the Dojo Cup champion. As a reward, his grandfather, Steve, plans on buying him sportswear from three different famous brands. Grandpa Steve gave Cullen a list, and Cullen is only allowed to pick one brand from each set.

Set 1	Set 2	Set 3
Adidas	Reebok	Under Armour
Nike	Puma	Reebok
Puma	Under Armour	Fila

Cullen already chose Nike and Reebok.

	What brand can Cullen not choose? A. Puma B. Fila C. Under Armour D. Adidas
10	• Danny is twice as old as Tommy was when Danny was as old as Tommy is now. • The combined age of Danny and Tommy is 112 years. How old is Danny now? A. 38 B. 54 C. 64 D. 76
11	There is a barbeque with a total of 35 people attending. • There are twice as many women as children. • There are twice as many children as men. How many men attended the barbeque? A. 4 B. 6 C. 2 D. 5
12	Wednesday Addams has eight cubic bricks. Each brick has a different letter on each face. The letters on each brick are: Brick 1 - ISSQWD Brick 2 - ZXANSF Brick 3 - CKJMUX Brick 4 - EWPCEH Brick 5 - IFKJTB Brick 6 - LOWXVZ Brick 7 - ZXTATS Brick 8 - RWQKUP Which one of the following words lacks 2 bricks?

	A. MORTICIA B. FUNERALS C. PIRANHAS D. SCISSORS
13	Enid Sinclair has five social media accounts with almost the same passwords. All of her passwords consist of 10 characters. She knows that the password for her reddit account has exactly one different character from the passwords of her other accounts. Her passwords are shown below: Password 1: E<3W!s}@') Password 2: E<BW!s}@') Password 3: E<3W!s}@") Password 4: E<3W!s}@') What is the password for Enid's reddit account? A. E<3W!s}@'} B. E<3W!s}@`' C. E<3W!s}@') D. E<3\\!s}@')
14	Sheehan and Czar decided to spend their lunch break playing the "Tower of Hanoi". The rules of the game are simple: • There are three bars. One bar contains all five pegs. • The player has to move all the pegs to another bar in a way that the pegs are all stacked together, with the biggest one at the bottom and the smallest one at the top. • The new stack of pegs shouldn't be on the bar where all the pegs were first stacked. • You cannot transfer a peg to a bar with a bigger peg on top. Below is the ongoing game played by Sheehan and Czar. The pegs have already been moved several times. The first complete stack was from the first bar.  Based on the image above, what is the least number of moves that Sheehan and Czar have to make in order to create and complete the "Tower of Hanoi"? A. 3 B. 4 C. 5 D. 6

15

Percy Jackson has a large number of passwords he needs to remember from the many internet accounts he has. Thinking it will be more secure, he uses an alternative alphabet to create the passwords required to access the different accounts. He uses a version of the Leet alphabet, shown in the table below, to create these passwords. So, for example, LEET could be translated as 1337. To access his electricity account online, he makes the password by translating his hint word **SCYPHISTOMA** using the Leet alphabet.

Take note that numbers combined with a symbol such as “l” or other similar symbols can still be counted separately.

A	/\ or \ or 4 or @	N	\\ or /\ or \\ or //
B	3 or 8 or o	O	0 or () or [] or {}
C	(or < or K or S	P	2 or D
D	) or o or > or <	Q	(,) or kw
E	3	R	2 or Z or ?
F	= or ph	S	5 or 2 or \$
G	(or 9 or 6	T	+ or ']' or 7
H	~ or]~[or }~{ or (-) or)~(or #	U	_
I	1 or or ! or][	V	/ or \/ or V or /
J	_	W	V\ or \\\ or /\ or \/\ or \^/ or //
K	< or /< or \< or {	X	>< or }{
L	_ or or 1	Y	`/ or '/ or j
M	V or /\ or ' or (V) or /\ or / or /\	Z	2 or (\)

If the word **SCYPHISTOMA** is translated and the numbers are added up, which one of the following totals is not a possibility?

A. 23

B. 18

C. 21

D. 24

16

Woody has 13 pairs of green mittens and 13 pairs of red mittens in his drawer.

- Without looking, Woody takes out a number of mittens from the drawer.

How many mittens does he have to take in order to be certain there is a matching pair?

A. 27

B. 33

C. 14

D. 9

17

Minesweeper is a logic-based computer game that Yuki, a famous ballet dancer, does not know how to play. He asked Nima, his twin brother, to teach him the rules. Nima mentioned the mechanics of the game:

- Mines are randomly placed on a board. You have to click the “safe” squares while avoiding the squares with mines. Your first move is pure guessing. After you click on a square, it would either show you a mine or a certain number from 1 to 8. Once you see numbers, the logic game begins.
- The numbers 1 to 8 indicate the number of mines that directly surround a certain square (*A square has exactly 8 squares that directly surround it.*).
- Players put red flags on squares that they think are mines.

Yuki tried playing minesweeper with the rules in mind. So far, this is what his board looks like:



How many of the squares that Yuki marked with red flags are certain to be mines?

- A. 5
- B. 6
- C. 7
- D. 8
- E. 9

18

Eren Yeager uses the binary number system of coding to send a message to Mikasa Ackerman.

The word BEAN is written as:

01000010 01000101 01000101 01001110

How should Eren encode the word MALLEABLE?

- A. 01001101 01000001 01001100 01001100 01000101 01000001 01000010 01010001 01000101
- B. 01001101 01000001 01001100 01001100 01000101 01000001 01000010 01001100 01000101
- C. 01001101 01000001 01001100 01000101 01000101 01000001 01000010 01001100 01000101
- D. 01001101 01000001 01001100 01001100 01000101 01000001 01001100 01001100 01000101

19

T'Challa comes from the village of Wakanda. As someone who is proud of his roots, he constantly uses the

Wakandan language. Thor, T'Challa's friend, tried to keep up by firstly studying the Wakandan alphabet.

While he was still learning, T'Challa sent him the following note:

≧ H O H B X

T'Challa wrote in uppercase letters, but Thor only studied the lowercase version of the Wakandan alphabet, as shown below:

4 l r h 7 X O ≧ o λ k > 3 8
a b c d e f g h i j k l m
↓ 4 5 6 X Y C A D 7 8 9 0
n o p q r s t u v w x y z

What could T'Challa's message possibly be?

- A. WE READ
- B. GO HOME
- C. NO WORD
- D. NO READ
- E. TO HOME

20

In the zoo, one giraffe sees 4 lions, every lion sees 5 gorillas and the gorillas all see 3 monkeys holding a mouse in each of their hands.

How many animals are there?

- A. 28
- B. 36
- C. 34
- D. 58

21

Nav knows that the following phrases, expressed in a unique way, mean "BAY"

BAN ANA

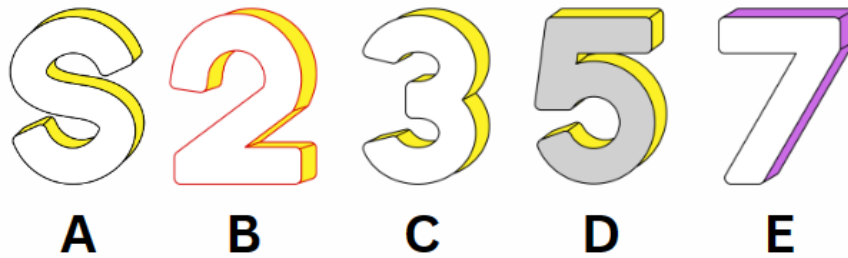
wonderal^{ic}eland

ARREST
YOU'RE

What could the following mean?

	 ICE³ GROUND FEET FEET FEET FEET FEET FEET RAKEN A. DIBS B. DIGS C. FISH D. RIFE
22	In 15 years, the combined age of four brothers will be 107. What will it be in 6 years? A. 71 B. 68 C. 88 D. 54
23	A photographer is hanging six portraits on the wall in a straight line. The portraits are of six family members: Lily, Milly, Nancy, Owen, Peter and Quentin. • Milly's portrait is either first or last. • There is one portrait between Nancy and Quentin. • Nancy's portrait comes after Lily's but before Quentin's Which of the following is a possible order? A. Lily, Nancy, Peter, Quentin, Owen, Milly. B. Milly, Nancy, Lily, Quentin, Peter, Owen. C. Lily, Nancy, Peter, Owen, Quentin, Milly. D. Nancy, Peter, Owen, Lily, Quentin, Milly.
24	In the word "WRISTWATCH" how many sets of two letters have as many letters between them as in the English alphabet? A. 1 B. 2 C. 3 D. 4
25	A gym teacher wants his 6 students, Candice, Thea, Ben, Jonathan, Will and Dan to line up in height order, from shortest to tallest. • Will is neither the tallest nor the shortest. • No girl is taller than Jonathan. • Dan is shorter than Candice but taller than Thea. • Ben is the tallest.

	If Jonathan is the second tallest, what must be true? A. Will is the third tallest. B. Will is the second shortest. C. Will is the third shortest. D. Thea is the shortest.
26	Here are some words translated from an artificial language. ● hapllesh means cloudburst ● srenchoch means pinball ● srenchresbo means ninepin Which word could mean "cloud nine"? A. leshsrench B. ochhapl C. haploch D. hapresbo
27	A museum must choose five stuffed birds to be shown in their newest exhibit. Their choices include an Albatross, a Bluebird, a Condor, a Diver, an Eagle, a Flamingo, a Gull and a Hummingbird. ● If the Diver is chosen, then the Albatross is not. ● The Eagle is chosen only if the Flamingo is not. ● If the Flamingo is chosen, so is the Albatross and the Hummingbird. ● If the Gull is chosen, either the Hummingbird or the Bluebird is chosen as well. Which of the following is a complete list of the birds shown in the exhibit? A. Albatross, Condor, Eagle, Diver, Bluebird. B. Diver, Eagle, Condor, Gull, Hummingbird. C. Gull, Hummingbird, Flamingo, Albatross, Bluebird. D. Flamingo, Albatross, Condor, Gull, Bluebird.
28	On a railway system, every station sells tickets to every single other station. During an expansion, some new stations were added. ● 46 additional sets of tickets were required. ● There were 11 original stations. How many stations were added? A. 4 B. 1 C. 2 D. 3
29	Which of the following is the odd one out?



30 Fiona, Georgia, Heather, Ian, John, Kevin and Lily are forming a line, trying to get tickets to a concert.

- Fiona is standing in front of Ian.
- John is standing in front of Heather.
- If John is not first in line, Lily is standing somewhere in front of him.
- Ian is standing immediately in front of or immediately behind Kevin.

If John is fourth in line, which of the following cannot be true?

- A. Fiona is behind Lily.
- B. Heather is in front of Ian.
- C. Kevin is behind Fiona.
- D. Georgia is behind Heather.

31 Identify the total value of the fourth and last row.

$$\begin{array}{rclcl}
 \text{Cake} & + & \text{Cake} & + & \text{Cake} & = & 21 \\
 \text{Pie} & + & \text{Pie} & + & \text{Cake} & = & 19 \\
 \text{Candle} & + & \text{Pie} & + & \text{Cake} & = & 15 \\
 \text{Cake} & + & \text{Two Candles} & \times & \text{Pie} & = & ?
 \end{array}$$

- A. 25
- B. 31
- C. 29
- D. 45

32 Below is a sudoku puzzle. Here are the rules of this game:

- An image must only appear once in a column.
- An image must only appear once in a row.
- An image must only appear once in a 2x2 grid found in each corner.

What image should be in the question mark?



- A. 
- B. 
- C. 
- D. 

33

Jena Ortega has a large number of passwords she needs to remember from the many internet accounts she has. Thinking it will be more secure, she uses an alternative alphabet to create the passwords required to access the different accounts. She uses a version of the Leet alphabet, shown in the table below, to create these passwords. So, for example, LEET could be translated as 1337. To access her Netflix account online, she makes the password by translating his hint word **MISSISSIPPI** using the Leet alphabet.

Take note that numbers combined with a symbol such as “!” or other similar symbols can still be counted separately.

A	/\ or \ or 4 or @	N	or \ or or /
B	3 or 8 or o	O	0 or () or [] or { }
C	(or < or K or S	P	2 or D
D	) or o or > or <	Q	(,) or kw
E	3	R	2 or Z or ?
F	= or ph	S	5 or 2 or \$
G	(or 9 or 6	T	+ or ']' or 7
H	- or] - [or } - { or (-) or) - (or #	U	_
I	1 or or ! or] [	V	/ or \ or V or /
J	_	W	\W or \ or /\ or \ \ or \^/ or //
K	< or /< or \< or {	X	>< or { }
L	_ or or 1	Y	'/ or ' or j
M	V or /\ or ' or (V) or /\ or / \ or /\	Z	2 or ()

If the word MISSISSIPPI is translated, how many of the following translations are possible?

- I. /\1\$5|22||2 ID
- II. /\ \] [25!52| |2|D
- III. /\ |\$ \$1\$2| |2|D
- IV. /\!55!\$ \$| |2|D

- A. 1
- B. 2
- C. 3
- D. 4
- E. None

34

John is four times older than his son right now. In 20 years, he will be twice as old as his son.

How old is John's son now?

- A. 10 years old
- B. 20 years old
- C. 50 years old
- D. 60 years old

35

In a textile factory, a machine cuts rolls of cloth into 1 metre strips.

- Each roll is 181 m long.
- One cut takes 4 seconds.

How long will it take the machine to finish the roll?

- A. 12 minutes
- B. 11 minutes 30 seconds

	C. 9 minutes D. 14 minutes 15 seconds												
36	At a small town election, in total 963 people voted between four different candidates. • The winner exceeded the runner-up by 53 votes, the third by 79 votes and the fourth candidate by 105 votes. How many votes did the winner get? A. 350 B. 270 C. 480 D. 300												
37	The following is a representation of a street with house numbers. <table><tr><td>5</td><td>6</td><td>7</td><td>8</td></tr><tr><td colspan="4"></td></tr><tr><td>1</td><td>2</td><td>3</td><td>4</td></tr></table> • William lives in house 1 and Lucy lives as far away from him as possible. • David lives in an odd number house. • Sally is neighbours with Robin who lives on the same side as Lucy. • David has neighbours on both sides and does not live opposite Lucy. In which house number does David live? A. 3 B. 5 C. 6 D. 7	5	6	7	8					1	2	3	4
5	6	7	8										
1	2	3	4										
38	I have a 6-digit pin code for my bank account. The third multiple of the first two digits (when considered as one value) corresponds to the fifth and sixth digits, respectively. By adding 20 to the first two digits (when considered as one value), you get the third and fourth digits, respectively. No two adjacent, consecutive numbers are greater than 50. If the fifth digit is 4, what could the sixth digit possibly be? A. 2 B. 3												

- C. 4
- D. 5
- E. None of the above.

39

To ensure that no other person can read their notes, best friends Eleven and Max use a grid code when writing messages. The grid looks like this:

	1	2	3	4	5
A	A/?	B	C	D	E
B	F	G	H	I / J	K
C	L	M	N	O	P
D	Q	R	S	T	U
E	V	W	X	Y	Z/.

For example, the word BARN could be coded as A2A1D2C3.

Max passes a note to Eleven saying, “E2B3A1D4 B4D3 C4D5D2 D3D4A1D4D5D3A1”

If Eleven wants to reply by saying that “Vecna is here.”, how should she write the code?

- A. E1A5A3C3A1 B4D3 B3A5D2A5
- B. E1A5A3C3A1 B4D4 B3A5D2A5A1
- C. E1A5A8C3A1 B4D3 B3A5D2A5
- D. E1A5A3C3A1 B4D3 B3A5D2A5E5

40

Lily would like to send out family pictures to her extended family. The pictures measure 8.5 cm by 7.5 cm. Lily would like to enlarge the pictures before sending them, making the longer side 13.6 cm long.

How long will the shorter side have to be?

- A. 11.5 cm
- B. 10 cm
- C. 12 cm
- D. 12.5 cm