2022

JOB

INTERVIEW

PUZZLES

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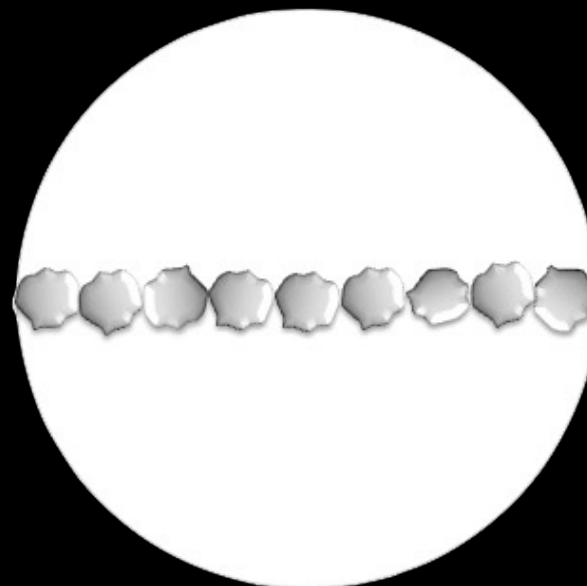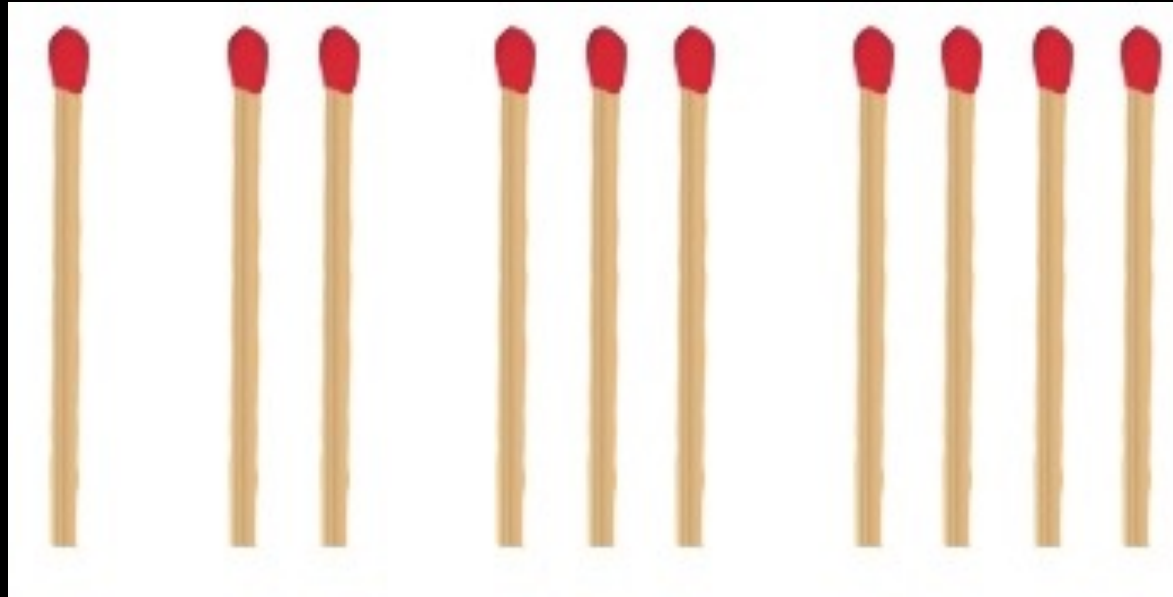
1. Pebbles

The Rhind Mathematical Papyrus (1550 BC) describes a method to calculate the number of pebbles that fit inside a circle with a diameter of 9 pebbles.

Can you make your estimation of the number?

2. Symmetry

What is the least number of matchsticks which must be moved so that the 10 matchsticks form a picture with an axe of symmetry?

3. Knights

There are 77 knights in a circle. The first knight touches the second one and the second knight must leave the circle. Then the third does the same with the fourth and so on. The knight who is left alone in the circle receives the crown and becomes the king.
What is the number of the knight who is left?

4. Last Will

A sailor finds himself on an uninhabited island after a shipwreck. Later, wild warriors visit the island. They decide that one of them will kill the sailor. They give him the right to choose the "killer". The sailor tells them his choice. The warriors leave the island without killing the sailor.

What did the sailor say?

5. Sleep

Charlie belongs to London's top society.

During which month does Charlie sleep the least?

6. Apple in Water

An apple is floating in water so that 1/4 of the apple is above water and 3/4 is under water. A fish starts eating the apple under water at a rate of 20 grams per minute, while a bird starts eating the apple above water at a rate that is twice as big as the rate of the fish.

Which part of the apple will the fish eat?

7. Tunnels

A Swiss train completely passes by a tree in one minute, through a tunnel in 3 minutes and through another tunnel in 5 minutes. It travels at the same speed.

How many times is the second tunnel longer than the first one?

8. Melons

A clever merchant passes 5 checkpoints. He has 5 bags with 5 delicious melons each. No bag can hold more than 5 melons. On each checkpoint he must give one melon for each bag with melons.
How many melons are left after crossing all the checkpoints?

9. Birth Rate

Birth data for UK has been used to look at trends in the most popular birth month over the past two decades.

Guess the month with the highest birth rate.

10. Peas

A shopkeeper has equal stock values (in dollars) of each of two kinds of peas, which ordinarily sell for $2 per kilogram and $3 per kilogram respectively. Unfortunately, her trainee has thoroughly mixed up all the peas.
What is the price she must set for the mixed peas, so that she sells them for the same amount of money as the separated peas?

11. GPS Satellites

A GPS satellite sends its exact position relative to the Earth and the distance to a cell phone. The phone knows the radius of a sphere with the satellite in the center. The phone collects the info from several satellites and calculates its own position on the Earth.
From the mathematical point of view, what is the least number of satellites in direct view that are needed to define the exact position of a phone?

12. Rich Couple

Jane and Gerry, whose average annual income is $150,000, have just moved from Poorland to Richland. The average household income is $100,000 in Poorland and $200,000 in Richland.

Do Richlanders become richer?

13. Tenth Ring

There are 19 stones in the third ring,
26 stones in the fourth ring, 33 stones
in the fifth ring, and 39 stones in the sixth ring.

Estimate the number of stones in the tenth ring.

14. Hockey

Eight teams enter a hockey tournament. Each team plays one match against each of the other teams with three points for a win, one point for a draw, and none for a defeat.
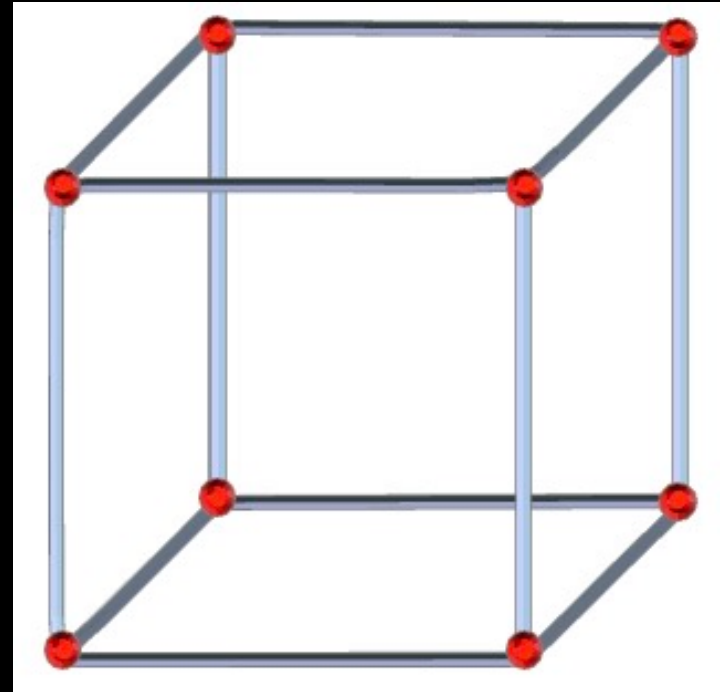
What fraction of all the matches is draw games if the total score of all the teams is 77 points?

15. Wire Cube

A plumber bends wire and welds a frame of a cube.

What is the least number of separate pieces of wire needed to assemble the cubical frame without repeating an edge?

16. Prize Money

Five students share a prize for a project.
Alice takes 1/5 of the total, Betty takes 1/4 of what is left, Colin takes 1/3 of what is left, Dianna takes 1/2 of what is left, and Ed receives what is left.

Who receives more?

17. Order

John must play three singles matches against his parents. If he wins two matches in a row, he gets prize money. His father is a better player than his mother.
Should he play Mother-Father-Mother or some other order?

https://aplusclick.org/k/PlayOrder.htm
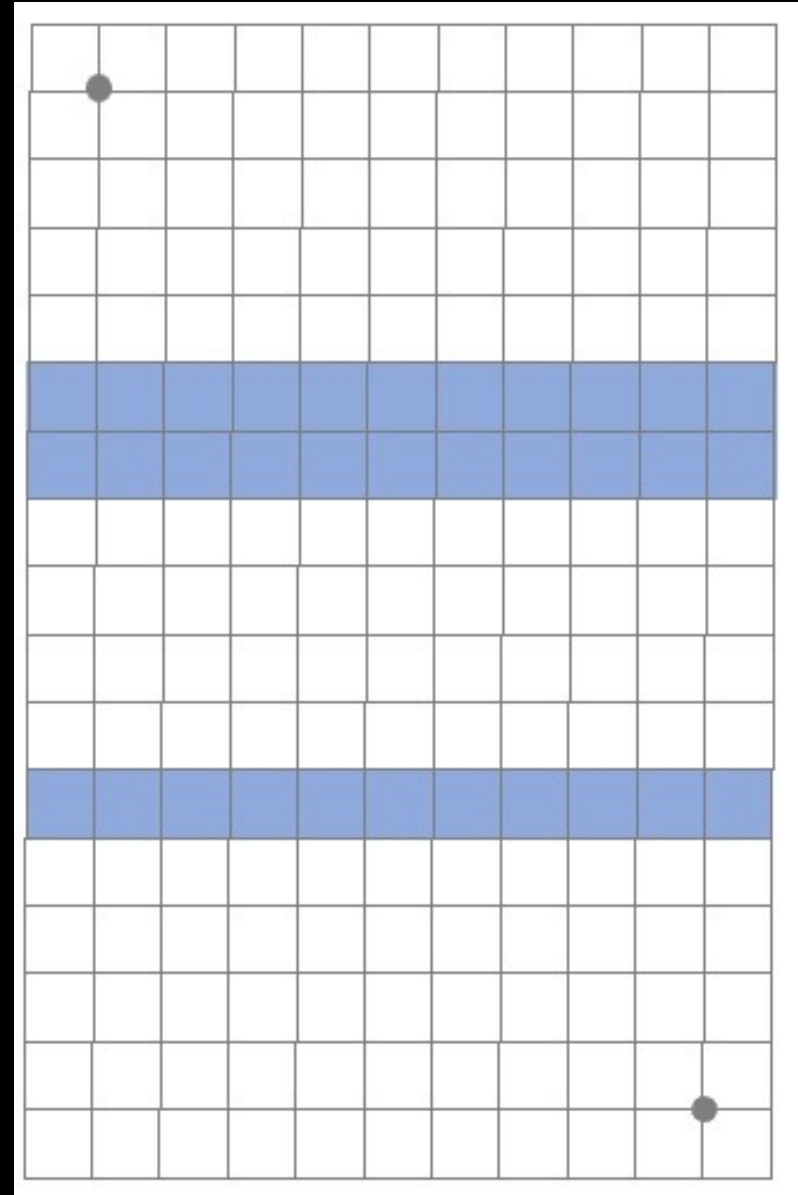
18. Green & Red

There are 200 dice in a bag, 90% of them are red and the others are green.

How many red dice are needed to be removed to make the percentage of red dice 80%?

19. CROW

Chief Road Officer of Wonderland (CROW), Crock Cross, plans to build a road between 2 cities that perpendicularly crosses two rivers. The cities and rivers are shown on a 1-km grid. Estimate the length of the shortest road between the two cities.

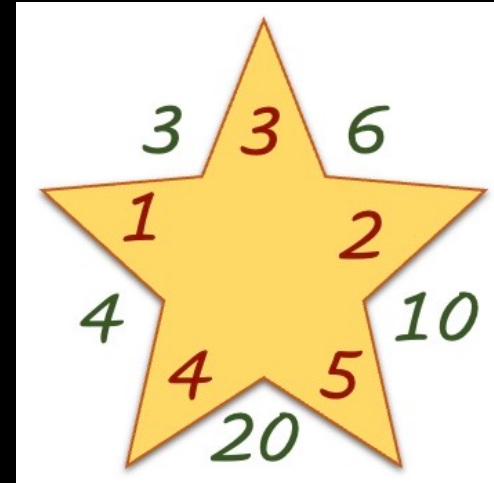# 20. Next Number

60 30 20 15 12 ..

Which number goes next in the sequence?

21. Star Numbers

Place numbers 1, 2, 3, 4, and 5 in the arms of a star. The green numbers are the results of multiplication of the two numbers in the arms of the star. The sum of the five green numbers is 43 in the given example.
What is the largest possible sum of the green numbers?

22. Something

People throw something when they need it and take back when they don't need it.

What is their profession?

23. One Stroke

$$4+5+5 = 450$$

Add a stroke to make the equality correct.

Many other challenging questions in Igor's books on Amazon

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Brain Teaser Job Interview Questions And Answers

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