

RAM maths circle - nashik

BHAS BHAMRE ACADEMY

Session - 6

Date - 12 September 2026
Faculty - Bhas Bhamre

Introduction: This problem sheet contains a collection of challenging puzzles and mathematical problems designed to develop logical reasoning, creative thinking, and problem-solving skills. Attempt every question carefully and justify your answers wherever possible.

- 1) Five pirates of different ages have a treasure of 100 gold coins. On their ship, they decide to split the coins using this scheme:

The oldest pirate proposes how to share the coins, and all pirates remaining will vote for or against it.

If 50% or more of the pirates vote for it, then the coins will be shared that way. Otherwise, the pirate proposing the scheme will be thrown overboard, and the process is repeated with the pirates that remain.

Assuming that all 5 pirates are intelligent, rational, greedy, and do not wish to die (and are rather good at math for pirates), what will happen?

- 2) Years ago, to puzzle his friends, a scientist gave one of four containers containing blue and/or yellow marbles to each of his friends: Tom, Dick, Harry, and Sally.

There were 3 marbles in each container, and the number of blue marbles was different in each one. There was a piece of paper in each container telling which color marbles were in that container, but the papers had been mixed up and were all in the wrong containers.

He then told all of his friends to take 2 marbles out of their container, read the label, and then tell him the color of the third marble.

Tom took two blue marbles out of his container and looked at the label. He was able to tell the color of the third marble immediately.

Dick took one blue marble and one yellow marble from his container. After looking at his label he was able to tell the color of his remaining marble.

Harry took two yellow marbles from his container. He looked at the label in his container, but could not tell what color the remaining marble was.

Sally, without even looking at her marbles or her label, was able to tell the scientist what color her marbles were.

Can you tell what color marbles Sally had?

Can you also tell what color marbles the others had, and what label was in each of their containers?

- 3) You have a balance and the following items of which you know the weights:

- Small coin weighing 5g
- Pen weighing 10g

- Eraser weighing 20g
- Hole punch weighing 40g
- Stapler weighing 80g

How many different possible weights can you measure with these items?

- 4) You have a balance scale with four weights. With these four weights you must balance any whole number load (in grams) from 1 all the way up to 40.

How much should each of the four weights weigh?

- 5) My new telephone number has 7 digits. I can never remember it.

My wife told me that she can remember it easily because if the last four digits are placed in front of the remaining three we get one more than twice that number.

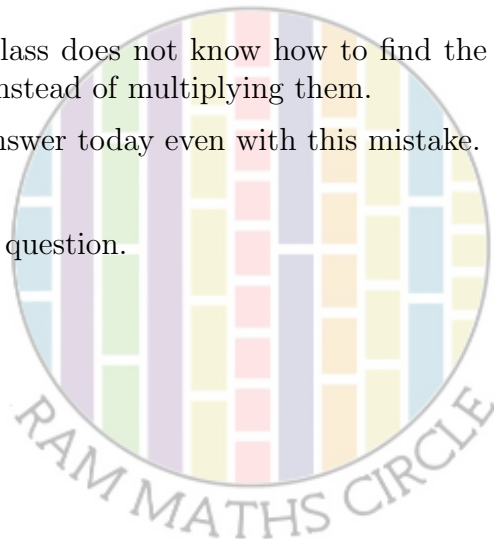
What is that number?

- 6) A problem child in my class does not know how to find the area of a rectangle. He adds the lengths of the sides instead of multiplying them.

But he got the correct answer today even with this mistake.

What were the sides?

Find five answers to this question.



—X—X—X—