

Lesson Plan

Mathematical Ages

Here are the dates of three pivotal female mathematicians:

Sophie Germain (French) 1776-1831

Sonja Kowalevsky (Russian) 1850-91

Emmy Noether (German) 1882-1935

Arrange them in order with the shortest-lived first.

2. Different Magic Square In a magic square, the three numbers in each row, in each column, and in each diagonal add up to the same number.

Complete this magic square.

3. Quiz Questions A quiz has twenty questions with 7 points awarded for each correct answer, 2 points deducted for each wrong answer and 0 for each question omitted.

Jack scored 87 points.

How many questions did he omit?

4. Debt Recovery Tony owes Tina 40p.

Then Tina borrows 50p from Tony.

Later Tony gives Tina 60p.

Who has to pay what to whom to square things up?

5. Loose Change In how many ways can you give change for a ten pence piece?

(You can use 1p, 2p and 5p coins when giving change)

Missing 9s

Sara makes a list of the whole numbers in ascending order which do not have 9s as any of their digits.

1 is the first number on Sara's list.

What is the 300th number on Sara's list?

Even Squares In the diagram on the right, how many squares (of any size) are there whose entries add up to an even total?

Double with 1 to 9 Using each of the number cards 1 to 9 once and once only, find two whole numbers, one of which is double the other.

Can you find more than one solution?

Tick Tock

Tick's watch runs 2 minutes per hour too slow.

Tock's watch runs 1 minute per hour too fast.

They set them to the same time at midday on Sunday.

The next time they met, one of the watches was one hour ahead of the other. What was the earliest time this could have been?

5. Paying the Bill Gill is 18 this year. She and I went to a restaurant for lunch to celebrate her birthday.

The bill for lunch for the two of us came to £25.50.

Gill paid the bill by credit card and I left a £2.50 tip in cash.
We agreed to split the total cost equally.
How much did I owe Gill?