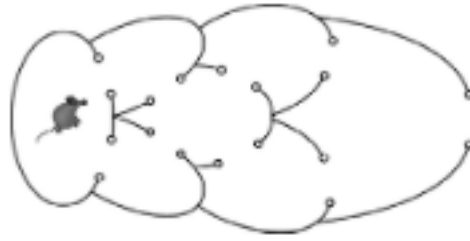The mouse wants to escape from the maze.

How many different paths can the mouse take without passing through the same opening more than once?
(A) 2 (B) 4 (C) 5 (D) 6 (E) 7

by Julie Roy

Problem Solving Questions F

Zoe has two cards with numbers on both sides of the cards – four numbers in total. The sum of the four numbers equals 32; the sum of the two numbers on the first card is equal to the sum of the two numbers on the second card. What are the hidden numbers?

(A)8 and 7 (B)8 and 6 (C)11 and 4 (D)9 and 6 (E)10 and 5

by Julie Roy

Problem Solving Questions F

A farmer has the same number of chickens, sheep and goats. Together all these animals have 180 legs. How many goats live on this farm?
(A) 15 (B) 16 (C) 18 (D) 21 (E) 60

Linda has started to write some numbers in the table below. She decides that each row and each column will contain the numbers 1, 2 and 3 only once.

What is the sum of the numbers she writes in squares A and B? (A) 2 (B) 3 (C) 4 (D) 5 (E) 6

My dogs have 18 more legs than noses. How many dogs do I have?

(A) 4 (B) 5 (C) 6 (D) 8 (E) 9

by Julie Roy

Rachel added seven numbers together and got a sum of 2016. She later found out she had made a mistake by using the number 201 instead of 102. What sum should she have gotten instead of 2016?

(A) 1815 (B) 1914 (C) 1917 (D) 2115 (E) 2118
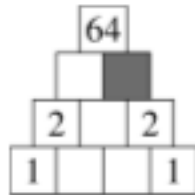
by Julie Roy

20 ÷ (7-5) =?

A) 10 B) 6 C) 8 D) 12 E) 9

by Julie Roy

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10 nickels = ? quarters.

A) 10 B) 6 C) 3 D) 4 E) 2

by Julie Roy

Monica writes numbers in the diagram so that each number is the product of the two numbers below it. Which number should she write in the grey cell?

(A) 0 (B) 1 (C) 2 (D) 4 (E) 8

Problem Solving Questions F

There were some candies in a bowl. Sally took half of the candies. Then Tom took half of the candies left in the bowl. After that, Clara took half of the remaining candies. In the end there were 6 candies in the bowl. How many candies were there in the bowl at the beginning?

(A) 12 (B) 18 (C) 20 (D) 24 (E) 48

Problem Solving Questions F

Which tile must be added to the picture so that the total light area is as large as the total dark area?
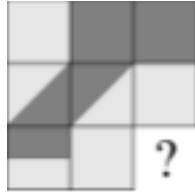
(A) (B) (C) (D) (E)

by Julie Roy

Nick has written each of the numbers from 1 to 9 in the cells of the 3 × 3 table. Only four of these numbers can be seen in the figure. Nick has noticed that for the number 5, the sum of the numbers in the neighbouring cells equals 13 (neighbouring cells are cells sharing a side). He noticed the same applies to the number 6. Which number has Nick written in the shaded cell?

(A) 5 (B) 6 (C) 7 (D) 8 (E) 9

by Julie Roy

Josip has four toys - a car, a doll, a ball and a spaceship.

He wants to arrange the toys in a row on a shelf. Both the spaceship and the doll have to be next to the car. In how many ways can he arrange the toys so that the condition is fulfilled?

(A) 2 (B) 4 (C) 5 (D) 6 (E) 8

by Julie Roy

Problem Solving Questions F

There are 5 ladybugs shown in the figure. Two ladybugs are friends with each other if the numbers of spots that they have differ exactly by 1. On Kangaroo Day, each of the ladybugs sent one text message to each of their friends. How many text messages were sent?

(A) 2 (B) 4 (C) 6 (D) 8 (E) 9
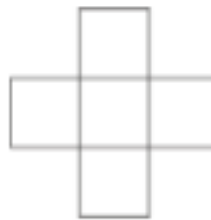
by Julie Roy

Problem Solving Questions F

A rectangle is divided into exactly 12 identical squares arranged in three rows. What is the perimeter of the rectangle, if the perimeter of one little square is 12 cm?

(A)21cm (B)42cm (C)108cm (D)60cm (E)24cm

by Julie Roy

The numbers 2, 3, 5, 6 and 7 are written in the squares of the cross (see the figure) so that the sum of the numbers in the row is equal to the sum of the numbers in the column. Which of the numbers can be written in the centre square of the cross?
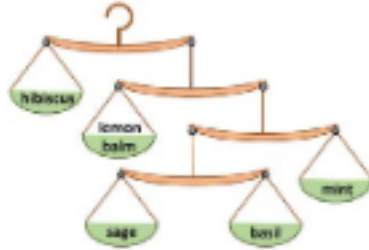

(A) only 3 (B) only 5 (C) only 7 (D) either 5 or 7 (E) either 3, 5 or 7

by Julie Roy

To cook an elixir a witch needs five types of herbs exactly in the amounts weighed by the scales in the picture. The witch knows that she needs to put 5 grams of sage into the elixir. How many grams of hibiscus does she have to use? (The weight of the scales is irrelevant.)
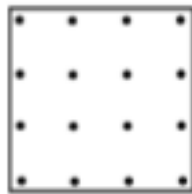

(A) 50 g (B) 40 g (C) 30 g (D) 20 g (E) 10 g

by Julie Roy

In the dotted sheet below, the distances, both horizontally and vertically, between every two neighbouring points are equal.

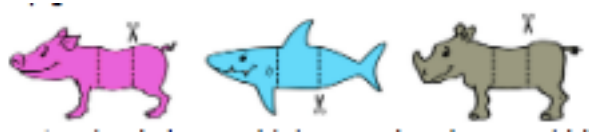Ann drew all possible squares by connecting four of the points. How many different values can the area of the squares take?
(A) 2 (B) 3 (C) 4 (D) 5 (E) 6

by Julie Roy

Tom drew a shark, a pig and a rhino and cut each of them in three pieces as shown.

Then he made different animals by combining one head, one middle part and one bottom.
How many different real or fantasy animals could Tom create in total?
(A) 3 (B) 9 (C) 15 (D) 24 (E) 27