Tim, Tom and Jim are triplets (three brothers born on the same day). Their brother Paul is exactly 3 years older. Which of the following numbers could be the sum of the ages of the four brothers? (All ages are rounded to a whole year).

(A) 25 (B) 27 (C) 29 (D) 30 (E) 60

A group of 31 students went camping taking nine tents. Each tent shelters either three or five students. If all students were covered by a tent, at least how many of the tents housed five students each?

(A) 2 (B) 3 (C) 4 (D) 5 (E) 6

The picture below shows the roads between five connected towns. The numbers show the distances between the towns. It is 24 kilometres from Caramelshire to Nutyork. The distance between Vanillaton and Chocolateford is 10 km longer than the distance between Vanillaton and Candister. Nutyork is closer to Candister than it is to Chocolateford. How far is it from Candister to Chocolateford?

23   13 11   35
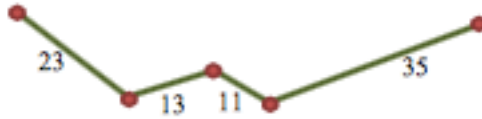
(A) 36 (B) 46 (C) 47 (D) 59 (E) 82

by Julie Roy

Magic trees grow in a magic garden. Each tree contains either 6 pears and 3 apples or 8 pears and 4 apples. There are 25 apples in the garden. How many pears are there in the garden?

(A) 35 (B) 40 (C) 45 (D) 50 (E) 56

by Julie Roy

The sum of the digits of the number 2014 is 7. How many numbers between 100 and 1000 also have 7 as the sum of their digits?

(A) 3 (B) 18 (C) 20 (D) 28 (E) 36

Rabbit Borya likes cabbage and carrots very much. Each day, he eats either 9 carrots, or 2 heads of cabbage, or 1 head of cabbage and 4 carrots. Last week, Borya ate 30 carrots. How many heads of cabbage did he eat last week?

(A) 6 (B) 7 (C) 8 (D) 9 (E) 10

Seven children are standing in a circle. No two boys are standing next to each other. No three girls are standing next to each other. How many girls are there standing in the circle?
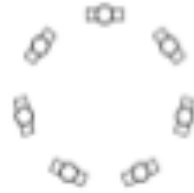
(A) only 3 (B) 3 or 4 (C) only 4 (D) 4 or 5 (E) only 5

by Julie Roy

The first three stages of a pattern are shown in the picture. How many black diamonds does the figure in stage 6 have?

(A) 19 (B) 21 (C) 26 (D) 28 (E) 34

by Julie Roy

Kangaroo Hamish bought toys and gave the shop-assistant 150 dollars. He received 20 dollars back. Then he changed his mind and exchanged one of the toys for another. He got back an additional 5 dollars. What toys did Hamish leave the store with?

(A) the truck and the plane
(B) the truck and the bus
(C) the truck and the train
(D) the motorcycle and the train
(E) the bus, the motorcycle and the train

by Julie Roy

Problem Solving Questions G

Ann threw seven darts at the dartboard, shown in the figure, and scored 32 points in total. How many darts did not hit the dartboard?

(A) 2 (B) 3 (C) 4 (D) 5 (E) 6

by Julie Roy

Problem Solving Questions G

A soccer coach is selecting a team amongst players who are from 20 to 35 years old. At least how many players should be selected for the team so that, for certain, two players are of the same age?

(A) 14 (B) 15 (C) 16 (D) 17 (E) 20

by Julie Roy

Four workers are building a house. In five days they built half the house. But winter is coming and they want to finish building the house in two more days. How many friends should the workers call for help, if they do not want to bother more people than is necessary?

(A) 2 (B) 4 (C) 6 (D) 7 (E) 10

by Julie Roy

Paige has three transparent sheets with the following opaque black patterns.
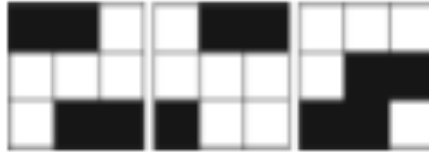
She can only rotate the sheets, she cannot flip them over. If Paige rotated the sheets and then put them one on top of the other, what would be the maximum possible number of black squares she could see if looking down on all the sheets?

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

by Julie Roy

 Nancy bought 17 cones of ice-cream for her three children. Misha ate twice as many cones as Ana. Dan ate more ice-cream than Ana but less than Misha. How many cones of ice-cream did Dan eat?

(A)4 (B)5 (C)6 (D)7 (E)8

by Julie Roy

Peter bought a carpet 36 dm wide and 60 dm long. The figure shows part of this carpet. As seen, the carpet has a pattern of small squares containing either a sun or a moon. You can count that along the width there are nine squares. When the carpet is fully unrolled, how many moons will be seen?

36 dm

60 dm
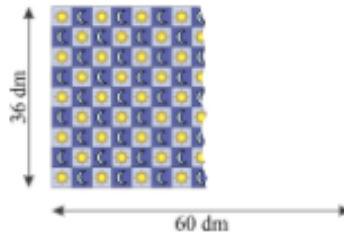
(A)68 (B)67 (C)65 (D)63 (E)60

 In December Tom-the-cat slept for exactly 3 weeks. Which calculations should we do in order to find how many minutes he stayed awake during this month?
(A) $(31 − 7) × 3 × 24 × 60$
(B) $(31 − 7 × 3) × 24 × 60$
(C) $(30 − 7 × 3) × 24 × 60$
(D) $(31 − 7) × 24 × 60$
(E) $(31 − 7 × 3) × 24 × 60 × 60$

There are oranges, apricots and peaches in a big basket. How many fruits are there in the basket if the peaches and the apricots together are 18, the oranges and the apricots together are 28 and 30 fruits are not apricots?

(A)46 (B)20 (C)40 (D)38 (E)29

by Julie Roy

In the shown triangle, first we join the midpoints of all the three sides. This way, we form a smaller triangle. We repeat this one more time with the smaller triangle, forming a new even smaller triangle, which we colour in red. How many triangles of the size of the red triangle are needed to cover completely the original triangle, without overlapping? Note: Midpoint of a side is the point that divides the side in two parts of the same length.

(A)5 (B)8 (C)10 (D)16 (E)32

by Julie Roy

Children in the school club had to arrange fitness balls according to their size from the biggest to the smallest one. Rebecca was comparing them and said: the red ball is smaller than the blue one, the yellow one is bigger than the green one, and the green one is bigger than the blue one. What is the correct order of the fitness balls?

(A) green, yellow, blue, red
(B) red, blue, yellow, green
(C) yellow, green, red, blue
(D) yellow, green, blue, red
(E) blue, yellow, green, red

by Julie Roy

Problem Solving Questions G

Schoolmates Andy, Betty, Cathie and Dannie were born in the same year. Their birthdays were on February 20th, April 12th, May 12th and May 25th, not necessarily in this order. Betty and Andy were born in the same month. Andy and Cathie were born in the same day of different months. Who of these schoolmates is the oldest?

(A) Andy (B) Betty (C) Cathie (D) Dannie (E) impossible to determine

by Julie Roy

Problem Solving Questions G