

International Kangaroo Mathematics Contest 2010

Benjamin Level: Class (5 & 6)

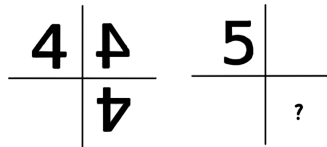
Max Time: 2 Hours

3-point problems

Q1) Knowing that $\blacktriangle + \blacktriangle + 6 = \blacktriangle + \blacktriangle + \blacktriangle + \blacktriangle$, which number is hidden by \blacktriangle ?

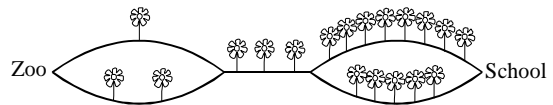
- A) 2 B) 3 C) 4 D) 6

Q2) The number 4 is next to two mirrors so it reflects twice as shown. When the same thing happens to number 5, what do we get instead for the question mark?



- A) B) C) D)

Q3) Kalim goes directly from Zoo to School. He counts each flower on the way. Which of the following number can not be his result.

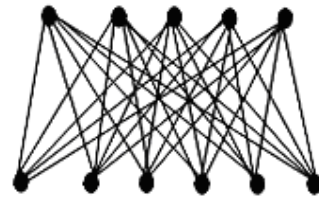


- A) 9 B) 10 C) 11 D) 12

Q4) A ladder has 21 stairs. Nadeem and Mahmood are counting stairs; one – from bottom to top, another – from top to bottom. They met on a stair that was called the 10th by Nadeem. What number will Mahmood give to this stair?

- A) 13 B) 11 C) 12 D) 10

Q5) Adil has connected all the upper points to all the lower points. How many lines Adil has drawn?

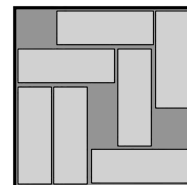


- A) 20 B) 25 C) 30 D) 35

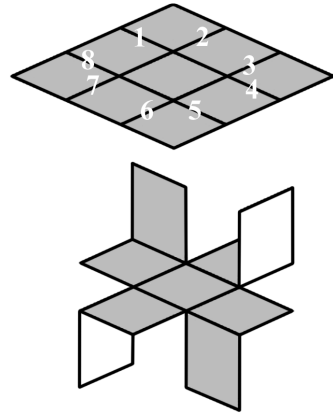
Q6) A fly has 6 legs, while a spider has 8 legs. Together, 2 flies and 3 spiders have as many legs as 10 birds and

- A) 3 cats B) 4 cats C) 5 cats D) 6 cats

Q7) There are seven bars in the box. It is possible to slide the bars in the box so there will be space for one more bar. At least how many bars have to be moved?



- A) 1 B) 2 C) 3 D) 4

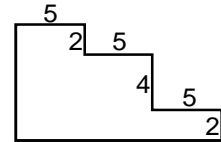


Q8) A square sheet of paper has grey upper side and white lower side. Sadia has divided it in nine little squares. Along which does she have to cut?

- A) 1, 3, 5 and 7; B) 2, 4, 6 and 8; C) 2, 3, 5 and 6;
 D) 3, 4, 6 and 7;

4-point problems


Q9) What is the perimeter of the figure below (whose angles are all right angles)?


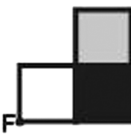
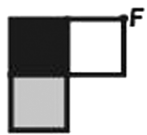
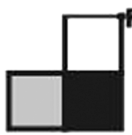


- A) $3 \times 5 + 8 \times 2$ B) $6 \times 5 + 4 \times 2$ C) $6 \times 5 + 6 \times 2$ D) $6 \times 5 + 8 \times 2$

Q10) Which of the following expressions has a different value?

- A) $20 \div 10 \times 20 \times 10$; B) $20 \times 10 \times 20 \div 10$;
 C) $20 \times 10 + 10 \times 20$; D) $20 \div 10 \times 20 + 10$.

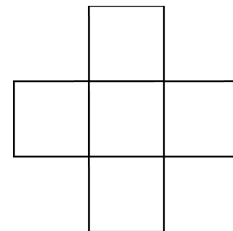
Q11) If the figure  is rotated half turn (180°) around *F*, the result is

- A)  B)  C)  D) 

Q12) Bilal has selected a number, has divided it by 7, then added 7 and finally multiplied the sum by 7. That way he comes up with the number 777. Which number was it he selected?

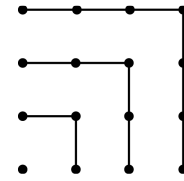
- A) 111 B) 722 C) 567 D) 728

Q13) The numbers 1, 4, 7, 10 and 13 have to be written in the picture so that the sum of three numbers in a row equal to the sum of three numbers in a column. What is the biggest possible sum?



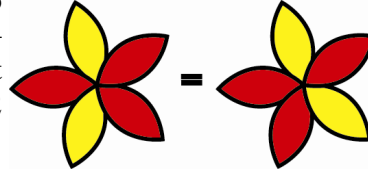
- A) 20 B) 21 C) 22 D) 24

Q14) Using next picture we can observe that $1+3+5+7 = 4 \times 4$. What is the value of $1 + 3 + 5 + 7 + \dots + 17 + 19 + 21$?



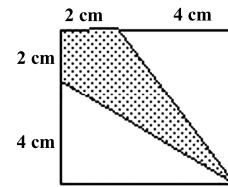
- A) 10×10 B) 11×11 C) 12×12 D) 13×13

Q15) Esha has drawn a flower with 5 petals. She wants to colour the flower, but she has only 2 different colours – red and yellow. How many different flowers can Esha get if she has to colour each petal using one of these 2 colours?



- A) 7 B) 8 C) 9 D) 10

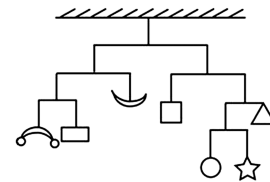
Q16) What fraction of the square is shaded?



- A) $\frac{1}{3}$ B) $\frac{1}{4}$ C) $\frac{1}{5}$ D) $\frac{3}{8}$

5-point problems

Q17) The picture shows a balanced mobile. We neglect weights of horizontal bars and vertical strings. The total weight is 112 grams. What is the weight of the star?

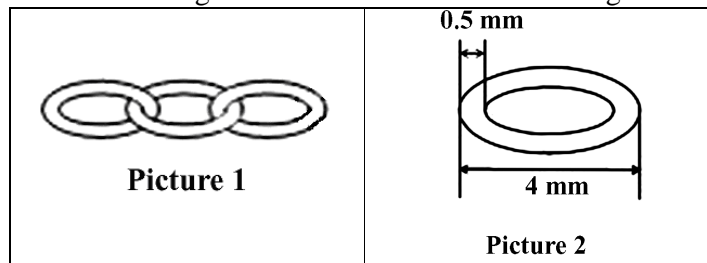


- A) 7 B) 12 C) 16 D) We can't know.

Q18) A pizza-shop offers a basic version of pizza with mozzarella and tomatoes. One or two toppings must be added: anchovies, artichokes, mushrooms, capers. Moreover, for each pizza three different sizes are available: small, medium, large. How many different types of pizza are available at all?

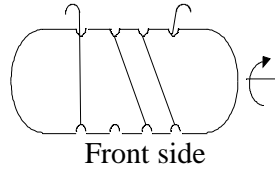
- A) 30 B) 12 C) 18 D) 48

Q19) A jeweller makes chains by connecting identical grommets (picture 1). Proportions of grommets are shown on picture 2. What is the length of a chain which consists of 5 grommets?



- A) 20 mm B) 19 mm C) 17.5 mm D) 16 mm

Q20) Zoha has wound some rope around a piece of wood. She rotates the wood as shown with the arrow.



What is the correct back side of the piece of wood?

Back side:

