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NAME _____ CLASS/GROUP _____

Points: _____ **Kangaroo leap:** _____

Separate the answer sheet from the test.

Write your answer under each problem number.

If you do NOT know the answer, leave the space empty.

For each WRONG answer, 1/4 of the points is deducted. DO NOT guess!

PROBLEM	1	2	3	4	5	6	7
ANSWER							

PROBLEM	8	9	10	11	12	13	14
ANSWER							

PROBLEM	15	16	17	18	19	20	21
ANSWER							

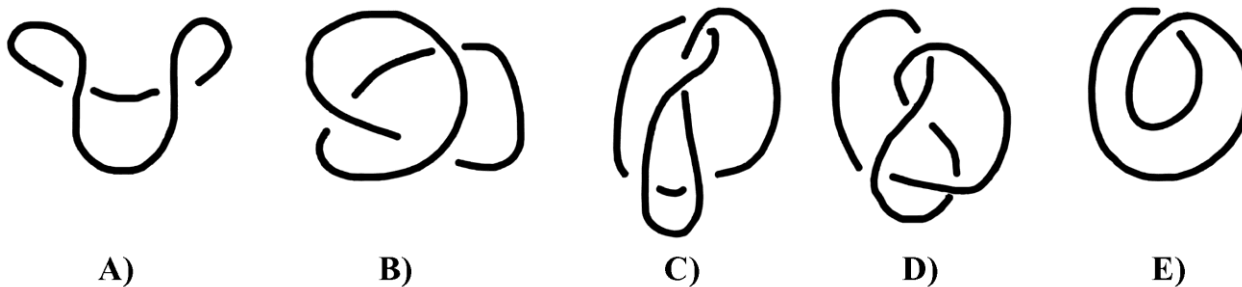


3 points

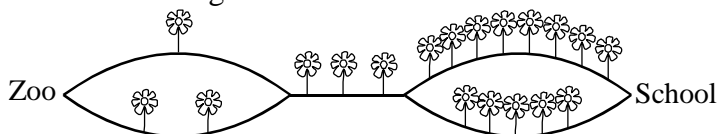
1. We know that $\blacktriangle + \blacktriangle + 6 = \blacktriangle + \blacktriangle + \blacktriangle + \blacktriangle$. Which number is the triangle?

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

2. In figure below there are five knots. Actually, only one of them is really a knot, all the others just look like it. Which one is the real knot?



3. A small kangaroo walks from the zoo to the school. On the way, the kangaroo picks every flower it sees. Which of the following could not be the total?



- A) 9 B) 10 C) 11 D) 12 E) 13

4. A ladder has 21 steps. Niilo and Mikko are numbering the steps, one starting from the bottom and the other from the top. They meet on a step that Niilo marks as number ten. What is the number Mikko gives to this step?

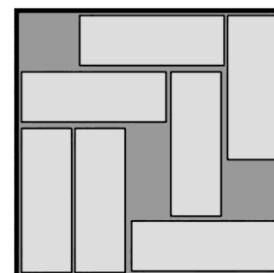
- A) 10 B) 11 C) 12 D) 13 E) 14

5. A fly has six legs, while a spider has eight legs. Together, two flies and three spiders have as many legs as ten birds and _____ have.

- A) two cats B) three cats C) four cats
D) five cats E) six cats

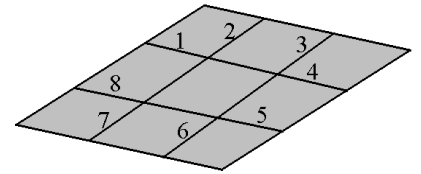
6. There are seven bars in a box. It is possible to slide the bars so there will be room for one more bar. What is the minimum number of bars that must be moved in order for one more bar to fit in?

- A) 1 B) 2 C) 3 D) 4 E) 5



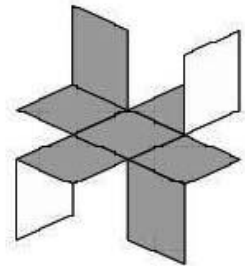


7. Eight line segments are numbered 1, 2, ..., 8 as shown in the picture. Anne cuts along four of them in order to make the figure below. Which are the numbers of the line segments Anne has cut?



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

4 points



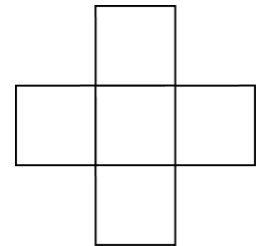
8. Which of the following expressions has a value that is different from the rest?

- A) $20 \cdot 10 + 20 \cdot 10$ B) $20 : 10 \cdot 20 \cdot 10$ C) $20 \cdot 10 \cdot 20 : 10$
D) $20 \cdot 10 + 10 \cdot 20$ E) $20 : 10 \cdot 20 + 10$

9. Panu has selected a number, divided it by seven, then added seven and finally multiplied the sum by seven. He came up with number 777. Which number did Panu select in the beginning?

- A) 7 B) 111 C) 722 D) 567 E) 728

10. The numbers 1, 4, 7, 10 and 13 are placed in the boxes. The sum in the row is the same as the sum in the column. What is the largest possible sum?

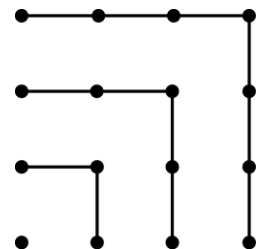


- A) 18 B) 20 C) 21 D) 22 E) 24

11. To make a newspaper that has 60 pages you need 15 sheets of paper. These sheets are placed on top of each other. Then, the sheets are folded together. By mistake, page seven is missing. Which other pages are missing in this newspaper?

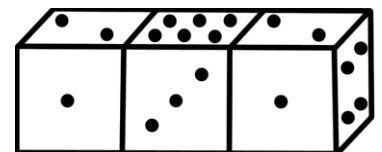
- A) 8, 9 and 10 B) 8, 42 and 43 C) 8, 48 and 49
D) 8, 52 and 53 E) 8, 53 and 54

12. Using the figure on the right we can observe that $1 + 3 + 5 + 7 = 4 \times 4$. How much is $1 + 3 + 5 + 7 + 9 + 11 + 13 + 15 + 17$?



- A) 14×14 B) 9×9 C) $4 \times 4 \times 4$ D) 16×16 E) 4×9

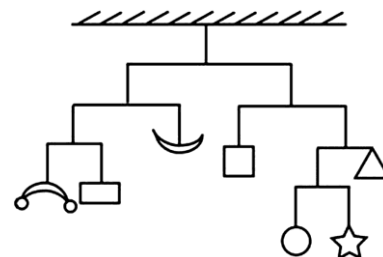
13. Three identical dice are glued together. The sum of dots on the opposite faces of a dice is always seven. What is the sum of the dots on the faces that are glued together?



- A) 12 B) 13 C) 14 D) 15 E) 16



14. The picture shows a balanced mobile. The weights of the supporting bars and strings do not count. The total weight is 112 grams. What is the weight of the star?



- A) 6 g B) 7 g C) 12 g D) 16 g E) We cannot know.

5 points

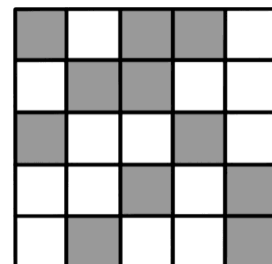
15. In the multiplication

$$\begin{array}{r} P P Q \\ \cdot \quad Q \\ \hline R Q 5 Q \end{array}$$

the letters P, Q and R each stand for a different digit. How much is $P + Q + R$?

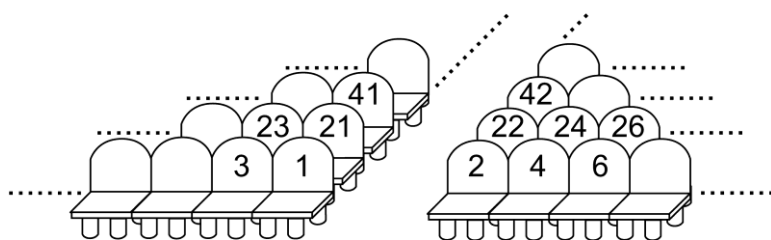
- A) 13 B) 15 C) 16 D) 17 E) 20

16. In the figure to the right we want every row and every column to have exactly one black cell. How many black cells must we color white in order to make this happen?



- A) 4 B) 5 C) 6 D) 7 E) It is not possible.

17. In the cinema Jenny bought a ticket for seat number 100. Ville wants to sit as close to her as possible, but there are only five seats left, numbers 76, 94, 99, 104 and 118. Which is the best seat for Ville?



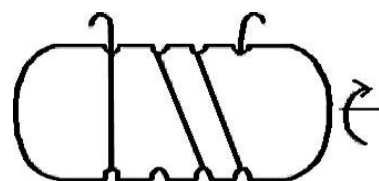
- A) 76 B) 94 C) 99 D) 104 E) 118

18. A pizza comes with mozzarella cheese and tomatoes. In addition you must choose one or two of the extra toppings (anchovies, artichokes, mushrooms, capers) and a size (small, medium, large). How many different types of pizza are available?

- A) 30 B) 12 C) 18 D) 48 E) 72



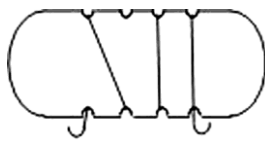
19. Andrea has wound some rope around a piece of wood. As shown with the arrow, she rotates her piece of wood to see the backside. What does she see after the rotation?



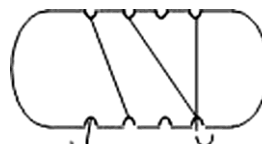
Front side



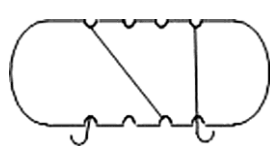
A)



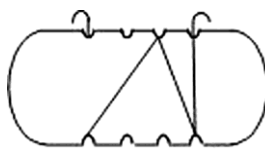
B)



C)



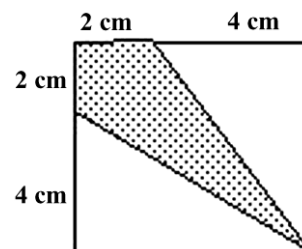
D)



E)

20. How much of the square is shaded?

- A) $\frac{1}{3}$ B) $\frac{1}{4}$ C) $\frac{2}{5}$ D) $\frac{3}{8}$ E) $\frac{4}{9}$



21. Six-, seven- and eight-legged octopi are servants of the underwater king. Those who have seven legs always lie, but those with six or eight legs, always tell the truth. One day four octopi met.

The blue one said: "Altogether we've got 28 legs".

The green one said: "Altogether we've got 27 legs".

The yellow one said: "Altogether we've got 26 legs".

The red one said: "Altogether we've got 25 legs".

What color is the octopus who is telling the truth?

- A) red B) blue C) green D) yellow E) none of the above