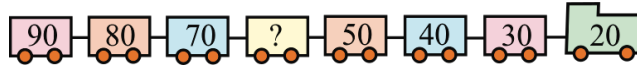


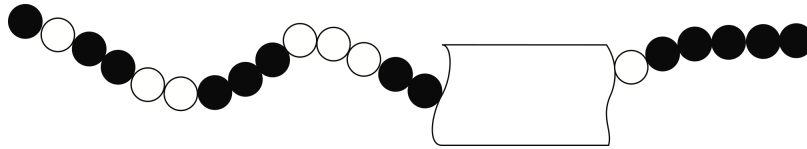
Level 1

1. Fill in the empty space marked with a question mark on the fourth car from the left.

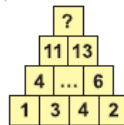


- A. 10 B. 20 C. 40 **D. 60** E. 80
2. Lucy, Maria, and Anna have a meeting at 12:30. Lucy's walk takes 10 minutes, Maria's a quarter of an hour, and Anna's 40 minutes. At what time must the person who needs the longest time to get to the meeting leave her house?
- A. 12:00 B. 12:10 C. 12:15 D. 12:20 **E. 11:50**

3. Which dots are covered?



- A. ●●○○ B. ●○○ **C. ●●○○○** D. ●●●●○○ E. ●○○●●
4. Which letter is missing from each of the words below?
SCHOL BOK PRBLEM QUESTIN
- A. A B. B **C. O** D. I E. U
5. Which number should be at the question mark in the pyramid?



- A. 10 B. 14 C. 22 **D. 24** E. 34

Level 2

1. What is the value of this expression: $2 \times 0 \times 0 \times 6 + 2,006$?

- A. 0 B. 2,006 C. 2,014 D. 2,018 E. 4,012

2. On one side of Long Street the houses are numbered with the consecutive odd numbers from 1 to 19. On the other side of that street, the houses are numbered with the consecutive even numbers from 2 to 14. How many houses are there on Long Street?

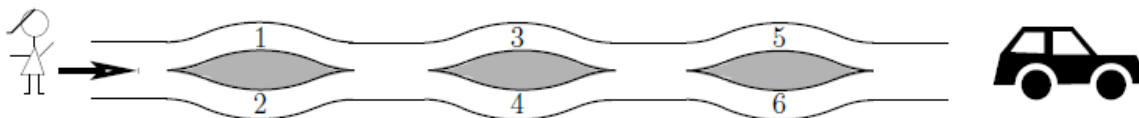
- A. 8 B. 16 C. 17 D. 18 E. 33

3. The structure shown in the picture is made by gluing together the sides of 10 cubes. Roman painted the entire structure, including the bottom. How many faces of the cubes did he paint?



- A. 18 B. 24 C. 30 D. 36 E. 42

4. Not taking any steps backwards, Anna went to the car using a path shown in the picture, and picked up numbers she encountered on her way. Which set of the numbers below could she pick up?



- A. 1, 2, 4 B. 2, 3, 4 C. 2, 3, 5 D. 1, 5, 6 E. 1, 2, 5

5. The square shown in the picture must be filled in such a way that each of the digits 1, 2, and 3 appears in each row and in each column once and only once. If Harry started to fill in the square as shown, what number can he write in the square marked with the question mark?

1	?	
2	1	

- A. 1 B. 2 C. 3 D. 1 or 2 E. 1, 2, or 3
6. How many digits have to be written in order to write down every number from 1 to 100 inclusive?
- A. 100 B. 150 C. 190 D. 192 E. 200

Level 3

1. There is an advertisement in a sport store:

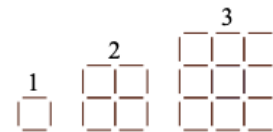


How much does a soccer ball cost?

- A. \$130.00 B. \$60.00 C. \$50.00 D. \$40.00 E. \$30.00
2. A piece of paper in the shape of a regular hexagon, like the one shown, is folded in such a way that the three corners marked with dots touch each other at the center of the hexagon. The obtained figure is a/an:



- A. six-pointed star
 B. dodecagon
 C. hexagon
 D. square
 E. equilateral triangle
3. Barbara is creating different squares using sticks of equal length in the way shown in the picture. She labeled the squares with numbers 1, 2, 3, and so on.
 How many more sticks will she use to create the 31st square compared to the 30th square?



- A. 148 B. 61 C. 254 D. 120 E. 124
4. Evaluate: $2,007 \div (2 + 0 + 0 + 7) - 2 \times 0 \times 0 \times 7$
- A. 1 B. 9 C. 214 D. 223 E. 2,007

5. Alex, Ben, Carl, and Daniel each participate in a different sport: karate, soccer, volleyball, and judo. Alex does not like sports played with a ball. Ben practices judo and often attends soccer games to watch his friend play. Which of the following statements is true?

A. Alex plays volleyball.

B. Ben plays soccer.

C. Carl plays volleyball.

D. Daniel does karate.

E. Alex does judo.

6. To the right of a certain two-digit number the same number has been written, creating a four-digit number. How many times greater is the new four-digit number than the original two-digit number?

A. 100

B. 101

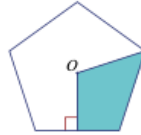
C. 1,000

D. 1,001

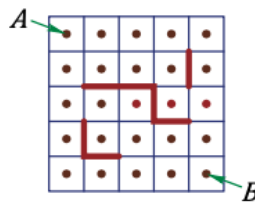
E. 10

Level 4

1. Point O is the center of the regular pentagon. What part of the whole pentagon is the shaded region?



- A. 10% B. 20% C. 25% **D. 30%** E. 40%
2. How many whole numbers smaller than 100 can you get as a sum of nine consecutive integers?
- A. 13 **B. 12** C. 11 D. 10 E. 9
3. Helen drew a 5×5 square and marked the center of each small square. Afterwards, she drew obstacles and then she tested how many ways it was possible to move from A to B in the shortest possible way while avoiding the obstacles and moving vertically or horizontally from center to center of each small square. How many such paths with the shortest length are there?



- A. 6 B. 8 C. 9 D. 11 **E. 12**
4. Rose bushes are planted in a line on both sides of a path. The distance between the bushes is 2 m. What is the largest number of bushes that can be planted if the path is 20 m long?

- A. 22** B. 20 C. 12 D. 11 E. 10

5. x is a strictly negative integer. Which of the expressions is the greatest?

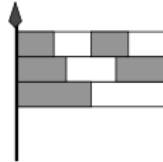
- A. $x + 1$ B. $2x$ C. $-2x$ D. $6x + 2$ E. $x - 2$

6. A certain broken calculator does not display the digit 1. For example, if we type in the number 3131, only the number 33 is displayed, with no spaces. Mike typed a 6-digit number into that calculator, but only 2,007 appeared on the display. How many different numbers could Mike have typed?

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

Level 5

1. A flag consists of three stripes of equal width, which are divided into two, three, and four equal parts, as shown. What fraction of the flag's area is shaded?

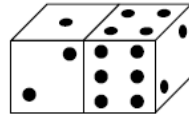


- A. $\frac{1}{2}$ B. $\frac{2}{3}$ C. $\frac{3}{5}$ D. $\frac{4}{7}$ E. $\frac{5}{9}$
2. An indiscreet neighbor asked Mrs. Novak how old she was. Mrs. Novak replied, "If I live to be one hundred, then my age is two thirds of the time I have left." How old is Mrs. Novak?
- A. 20 B. 40 C. 50 D. 60 E. 80
3. Working on a certain *Math Kangaroo* problem, Barbara noticed that the following conclusions are correct:
- 1) If answer A is true, then answer B is also true.
 - 2) If answer C is not true, then answer B is also not true.
 - 3) If answer B is not true, then neither D nor E is true.

Which answer is correct, if there is only one correct answer?

- A. A B. B C. C D. D E. E

4. In the picture, what is the sum of the number of dots on the faces of the dice which you cannot see?



- A. 15 B. 12 C. 7 D. 27 E. another answer

5. To fill in the table, we need to write 0 or 1 in each cell in such a way that the sum of numbers of each row and of each column is equal to 2. What are x and y ?

0	0	
	0	
	x	1
	y	

- A. $x = 1, y = 1$ B. $x = 1, y = 0$ C. $x = 0, y = 1$
 D. $x = 0, y = 0$ E. It is impossible to determine.

6. A certain island is inhabited by liars and truth-tellers (the liars always lie and the truth-tellers always tell the truth). One day twelve islanders, both liars and truth-tellers, gathered together and issued a few statements. Two people said: "Exactly two people among us twelve are liars." Four other people said: "Exactly four people among us twelve are liars." The other six people said: "Exactly six people among us twelve are liars." How many liars were there?

- A. 2 B. 4 C. 6 D. 8 E. 10

Level 6

1. Which of the following products is the greatest?

- A. $2,006 \times 2,006$ B. $2,005 \times 2,007$ C. $2,004 \times 2,008$
 D. $2,003 \times 2,009$ E. $2,002 \times 2,010$

2. The radius of a traffic sign is 20 inches. The area of the lighter region is equal to the area of the darker region. How many inches long is the radius of the circle made out of the four darker pieces?



- A. $10\sqrt{2}$ B. $4\sqrt{5}$ C. $\frac{20}{5}$ D. 12.5 E. 10

3. The cells of a 4×4 table are colored black and white as shown in Figure 1. One move allows us to exchange any two cells positioned in the same row or in the same column. What is the fewest number of moves necessary to obtain Figure 2?

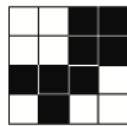


Figure 1

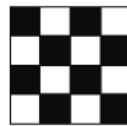
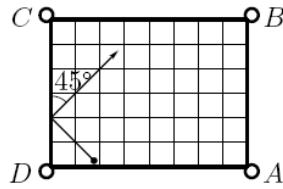


Figure 2

- A. It is not possible
 B. 2
 C. 3
 D. 4
 E. 5

4. A billiard ball always bounces off the side of a billiard table at an angle of 45° as shown. If it continues on the path shown, which pocket will the ball fall into?



- A. A
 B. B
 C
 D. D
 E. The ball will not fall into any pocket.
5. The square $ABCD$ lies in a plane and its edge measures 1. Consider all squares that share at least two vertices with the square $ABCD$. What is the area of the region covered by all of such squares, not including $ABCD$?

- A. 5 B. 6 C. 7 D. 8 E. 9

6. What is the measure of the acute angle of a rhombus with side length equal to the geometric mean of its diagonals?

- A. 15° B. 30° C. 45° D. 60° E. 75°