



Kangaroo 2019 Benjamin
6th and 7th grade

NAME _____ CLASS _____

Points: _____ Kangaroo leap: _____ ID code (teacher fills): _____

Separate this answer sheet from the test. Write your answer under each problem number.

A right answer gives 3, 4 or 5 points. Every problem has exactly one right answer.

For each wrong answer, $\frac{1}{4}$ of the points of the problem will be deducted, for example for a 4 points problem -1 point. If you leave the answer empty, no deduction will be made.

There are two goals: to score as many points as possible or to have as many consecutive right answers as possible.

3 points

PROBLEM	1	2	3	4	5	6	7
ANSWER							

4 points

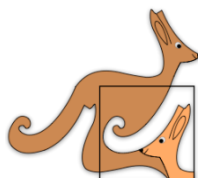
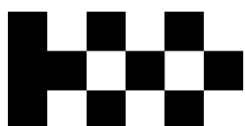
PROBLEM	8	9	10	11	12	13	14
ANSWER							

5 points

PROBLEM	15	16	17	18	19	20	21
ANSWER							

Contest not to be held before 25th of March.

Logo design by Samin Ahmed.

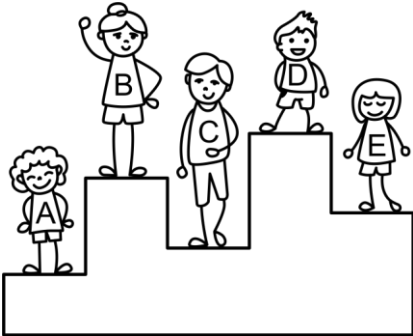




3 points

1.

The best five runners of the competition are pictured below. The higher the step on the podium, the higher the rank of the runner. So the one who finished first stands on the highest step. Which runner finished third?



- (A) A (B) B (C) C (D) D (E) E

2.

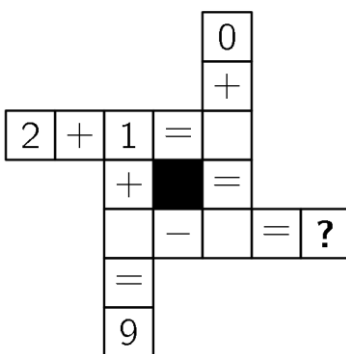
The Mayan people wrote numbers with dots and bars. A dot is written for number 1 and a bar is written for number 5.

How did Mayans write number 17?

- (A)  (B)  (C)  (D)  (E) 

3.

What number should replace the question mark when all the calculations are completed correctly?



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



4.

A digital clock looks like this:



What will the clock show the next time it uses the digits 2, 0, 1 and 9 in some order?



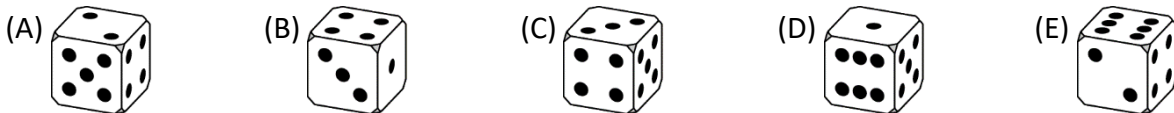
5.

There are 14 pupils in the class who always bring their own skis and 12 pupils who always use skis borrowed from school. If half of the pupils go skiing, at least how many of them have their own skis with them?

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

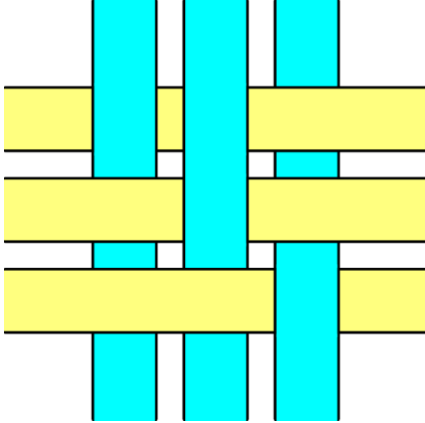
6.

In an ordinary die there are all the numbers of dots from 1 to 6, each of them on different face. The sum of the dots on the opposite faces of an ordinary die is equal to 7. Which of the following may show an ordinary die?



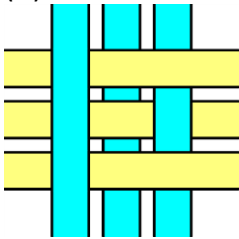
7.

Six strips are woven into a pattern as shown.

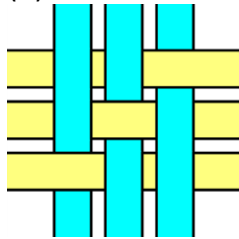


What does the pattern look like from the other side?

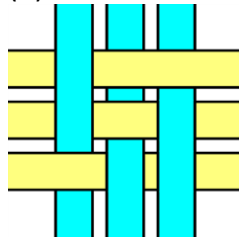
(A)



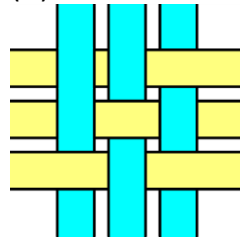
(B)



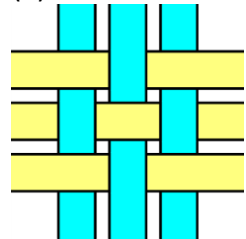
(C)



(D)



(E)



4 points

8.

The sum of the ages of a group of kangaroos is 60 years. Two years ago the sum of their ages was 36 years. How many kangaroos are in the group?

(A) 10

(B) 12

(C) 15

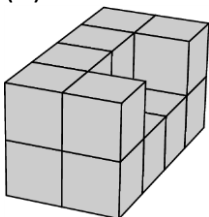
(D) 20

(E) 24

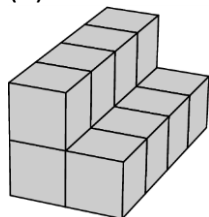
9.

Stella paints the following buildings made up of identical cubes. Their bases are made of 8 cubes. Which building needs the most paint?

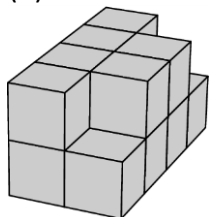
(A)



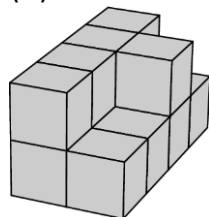
(B)



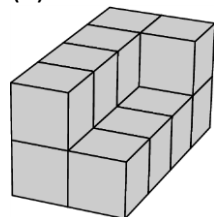
(C)



(D)



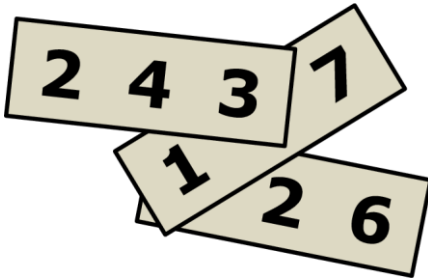
(E)





10.

A three digit number is written on each of these pieces of paper. Two of the digits are covered. The sum of the three numbers is 826. What is the sum of the two covered digits?



- (A) 7 (B) 8 (C) 9 (D) 10 (E) 11

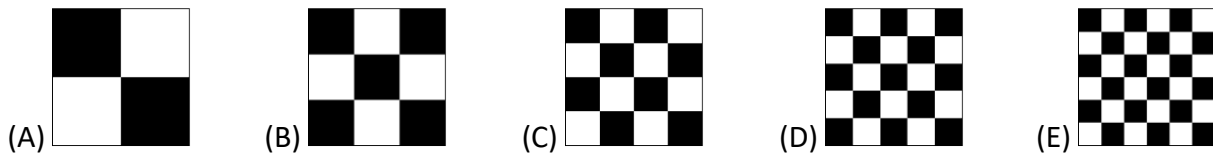
11.

Froggy the Frog usually eats exactly 5 spiders a day. On a day when Froggy jumps a lot, Froggy eat 10 spiders a day. Froggy ate 60 spiders in 9 days. On how many days did Froggy jump a lot?

- (A) 1 (B) 2 (C) 3 (D) 6 (E) 9

12.

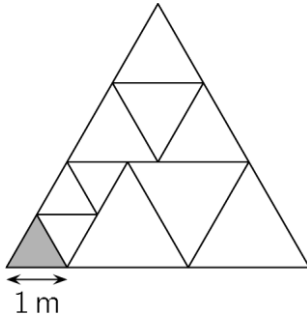
Five equal squares are divided into smaller equal squares. Which one of the squares shown below has the largest black area?





13.

A big triangle is divided into equilateral triangles according to the figure. The side of the small gray triangle is 1 m. What is the perimeter of the big triangle?



- (A) 15 m (B) 17 m (C) 18 m (D) 20 m (E) 21 m

14.

In the garden of a witch there are 30 animals: dogs, cats and mice. At first, the witch turns 6 dogs into cats and after that 5 cats into mice. After that the witch's garden has the same number of dogs, cats and mice. How many cats were there at the beginning in the garden?

- (A) 4 (B) 5 (C) 9 (D) 10 (E) 11

5 points

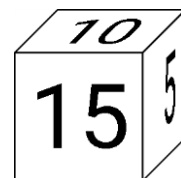
15.

If Alex isn't wearing a hat, then Bob is wearing a hat. If Bob isn't wearing a hat, then Carl is wearing a hat. Today Bob is not wearing a hat. Who is wearing a hat?

- (A) Both Alex and Carl (B) Only Alex (C) Only Carl (D) Neither Alex, nor Carl (E) It is not possible to determine.

16.

The cube shown in the figure has a positive integer written on each face. The products of the two numbers on opposite faces are the same. What is the smallest possible sum of the six numbers on the cube?

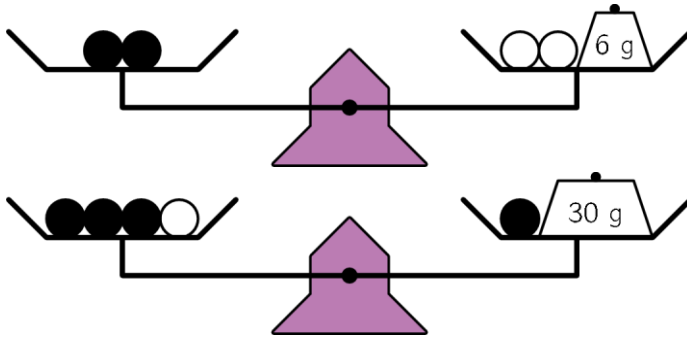


- (A) 36 (B) 37 (C) 41 (D) 44 (E) 60

17.

Six identical black beads and three identical white beads are arranged on weighing scales as shown in the picture, so that the scales are in balance.

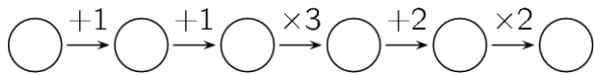
What is the total weight of these nine beads?



- (A) 100 g (B) 99 g (C) 96 g (D) 94 g (E) 90 g

18.

Benjamin writes an integer in the first circle and then fills the other five circles following the instructions.



How many of the six numbers in the circles are divisible by 3?

- (A) Exactly 1 (B) Both 1 and 2 are possible (C) Exactly 2 (D) Both 2 and 3 are possible (E) Both 3 and 4 are possible

19.

Jere took selfies with his 8 cousins. Each of his cousins is in two or three of these pictures. In each picture there are exactly 5 of his cousins. How many selfies did Jere take?

- (A) 7 (B) 6 (C) 5 (D) 4 (E) 3

20.

Salli has two machines: the first one exchanges 1 white token into 4 red tokens, while the other one exchanges 1 red token into 3 white tokens. In the beginning Salli has 4 tokens, all of which are white. After exactly 11 exchanges, she has 31 tokens. How many of those are red?

- (A) 11 (B) 14 (C) 17 (D) 21 (E) 27



21.

Every digit on a digital clock is composed of at most 7 segments of light, as follows:



Unfortunately, in this clock the same 2 segments don't work in any digit's place. At this moment the clock shows

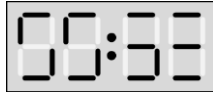


What will it show after 3 hours and 45 minutes?

(A)



(B)



(C)



(D)



(E)

