

Math Kangaroo 2006 Grades 3–4

3 POINTS FOR EACH PROBLEM

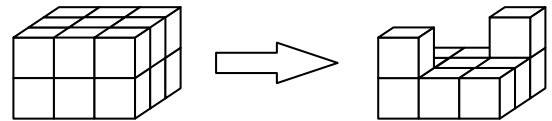
1. During a summer math camp in the city of Zakopane in Poland, a trip to Mount Giewont takes place. It takes 3 hours to get to the top of the mountain. A half an hour stay takes place on top of the mountain. Afterwards, it takes two and a half hours to come down the mountain. What time in the morning at the latest does the trip need to start so that everybody is back at the camp for lunch at 3 P.M.?

- A) 8:00 B) 8:30 C) 9:00 D) 9:30 E) 10:00

2. What is the value of this expression: $2 \cdot 0 \cdot 0 \cdot 6 + 2006$? (\cdot means multiplication.)

- A) 0 B) 2006 C) 2014 D) 2018 E) 4012

3. How many cubes have been removed from the first block to obtain the second one?



- A) 4 B) 5 C) 6 D) 7 E) 9

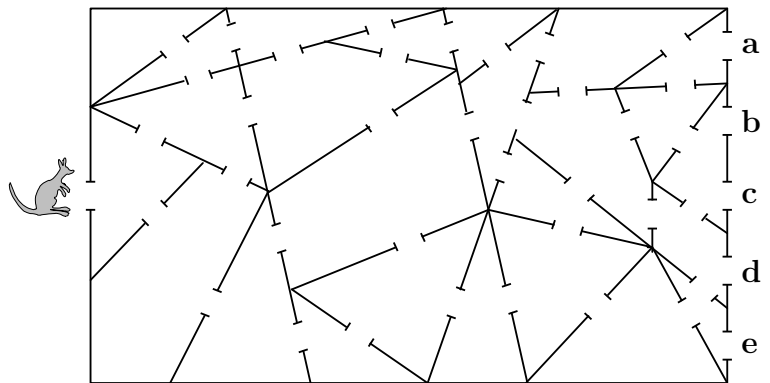
4. Katie’s birthday was yesterday. It is Thursday tomorrow. What day was Katie’s birthday?

- A) Tuesday B) Wednesday C) Thursday D) Saturday E) Monday

5. John plays Darts. All darts he gets back and for each time he hits the bullseye, he gains two additional darts. At the beginning he has 10 darts and at the end 20. How many times did he hit the bullseye?

- A) 6 B) 8 C) 10 D) 5 E) 4

6. A kangaroo enters the building as shown in the picture. He only passes through triangular rooms. Where does he leave the building?



- A) a B) b C) c D) d E) e

7. Four people can sit at a square table. For the school party the students put together 7 square tables in order to make one long rectangular table. How many people can sit at this long table now?

- A) 14. B) 16. C) 21. D) 24. E) 28.

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8. In his wallet, Stanly has one 5-dollar bill, one 2-dollar bill, and one 1-dollar bill. Which of the following amounts can Stan not make out of the bills that he has?

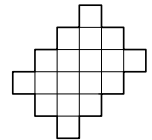
- A) \$3 B) \$4 C) \$6 D) \$7 E) \$8

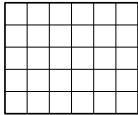



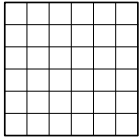
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9. On one side of Long Street the houses are numbered with the consecutive odd numbers from 1 to 19. On the other side of that street, the houses are numbered with the consecutive even numbers from 2 to 14. How many houses are there on Long Street?

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

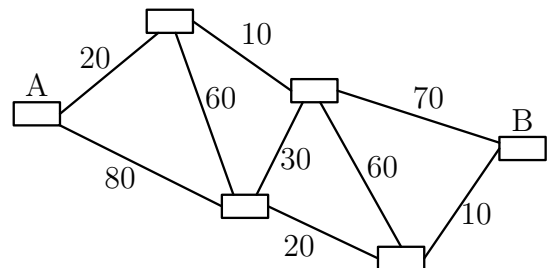
10. From which of the figures below the figure to the left was cut out?



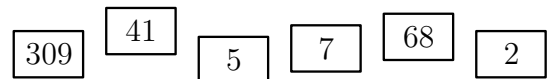
- A)  B)  C)  D)  E) 

11. The picture below shows bus routes and ticket prices between 6 towns. What is the least amount of money to pay for the tickets to get from town A to town B?

- A) 90 B) 100 C) 110 D) 180 E) 200



12. What is the least number we can get arranging six cards in one row, one after another, with numbers shown in the picture?



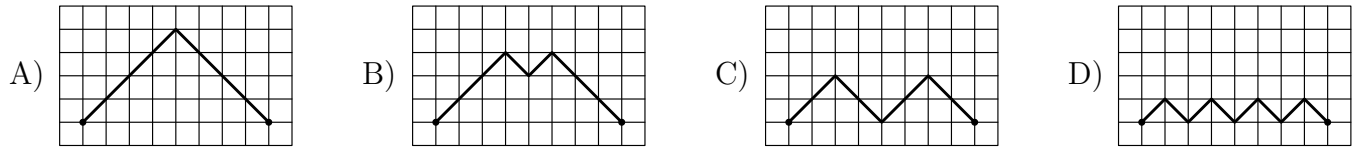
- A) 1 234 567 890 B) 1 023 456 789 C) 3 097 568 241 D) 2 309 415 687 E) 2 309 415 678

13. Six weights, weighing 1 pound, 2 pounds, 3 pounds, 4 pounds, 5 pounds and 6 pounds were placed into three boxes – two weights in each box. The weights in the first box weigh 9 pounds together, and those in the second box weigh 8 pounds. Which weights are in the third box?

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

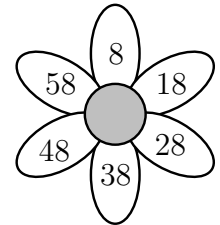
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14. Between two points four routes are drawn. Which route is the shortest?



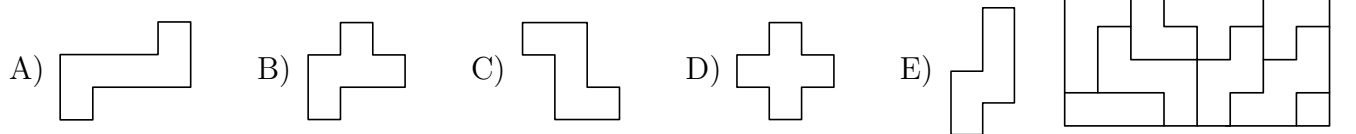
E) All are equal.

15. Numbers are written on a "number flower". Mary pulled out all the petals with numbers which give remainder 2 when divided by 6. What is the sum of the numbers on the petals that Mary pulled out?



A) 46 B) 66 C) 84 D) 86 E) 114

16. You can move or rotate each shape of the puzzles but you cannot turn them over. Which of the shapes below does not appear in the puzzle to the right?

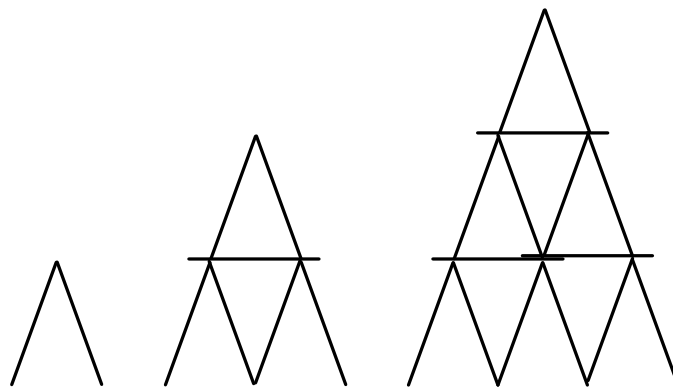


5 POINTS FOR EACH PROBLEM

17. Four crows are sitting on the fence. Their names are Dana, Hanna, Lena and Bennie. Dana sits exactly in the middle between Hanna and Lena. The distance between Hanna and Dana is the same as the distance between Lena and Bennie. Dana sits 4 feet away from Bennie. How far is Hanna sitting from Bennie?

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

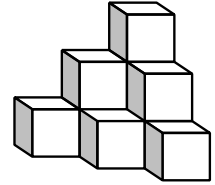
18. Johnny builds a house made out of cards. In the picture, one-floor, two-floor, and three-floor such houses are shown. How many cards does Johnny need to build 4-floor house?



A) 23 B) 24 C) 25 D) 26 E) 27

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19. The structure shown in the picture is made by gluing together 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

20. Irena, Ann, Kate, Olga and Elena live in the same two-floor house. Two of the girls live on the first floor; three of them live on the second floor. Olga lives on a different floor than Kate and Elena. Ann lives on a different floor than Irena and Kate. Who lives on the first floor?

- A) Kate and Elena B) Irena and Elena C) Irena and Olga
 D) Irena and Kate E) Ann and Olga

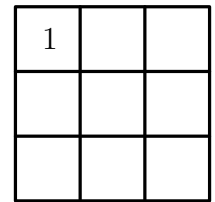
21. In the expression $2002 \square 2003 \square 2004 \square 2005 \square 2006$ instead of each \square a "+" or "-" can be written. Which result is impossible?

- A) 1998 B) 2001 C) 2002 D) 2004 E) 2006

22. One year in March, there were 5 Mondays. Which day of the week below could not appear in this month also five times?

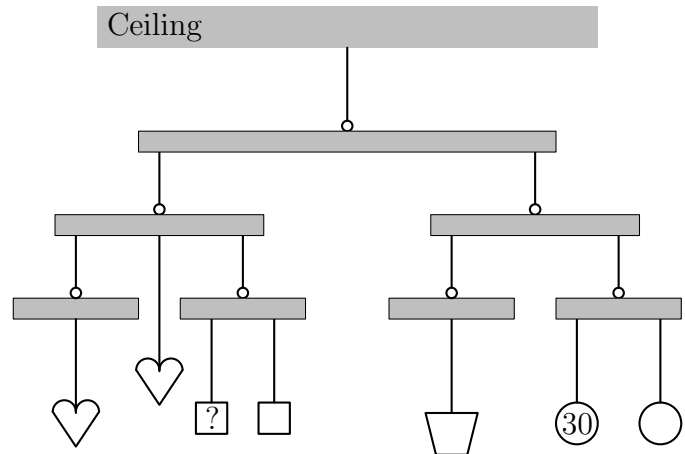
- A) Saturday B) Sunday C) Tuesday D) Wednesday E) Thursday

23. In each of the nine cells of the square, write down one of the digits 1, 2 or 3. Do this in such a way that in each horizontal row and in each vertical column each of the digits 1, 2 and 3 will be written. If you start with 1 in the upper left cell, in how many different ways can the square be filled?



- A) 2 B) 3 C) 4 D) 5 E) 8

24. The weights in the figure are in balance. The same shapes have the same weight. The weight of each circular shape is 30 ounces. What is the weight of the square shape indicated with the question mark?



- A) 10 B) 20 C) 30 D) 40 E) 50