Math Kangaroo 2014 Sample Questions

LEVELS 1 AND 2

SAMPLE QUESTION FOR 3 POINTS

The ladybug will sit on a flower that has five petals and three leaves. On which of the flowers below will the ladybug sit?

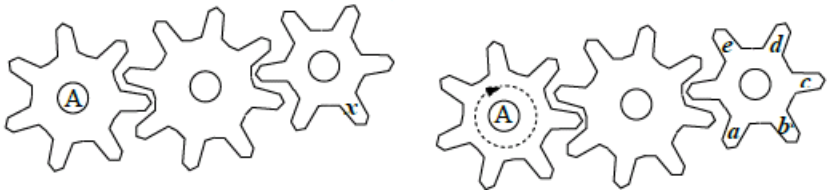
(A)  (B)  (C)  (D)  (E)  

SAMPLE QUESTION FOR 4 POINTS

Which of the shapes shown below will fit the above shape exactly to make a rectangle?

SAMPLE QUESTION FOR 5 POINTS

Cogwheel *A* turns around completely once. At which place is *x* now?



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

Math Kangaroo 2014 Sample Questions

LEVELS 1 AND 2 ANSWERS

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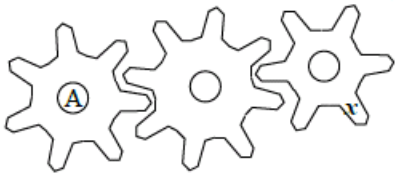
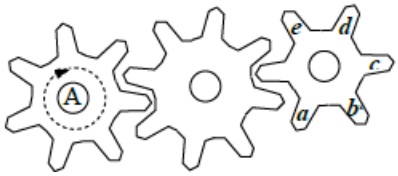




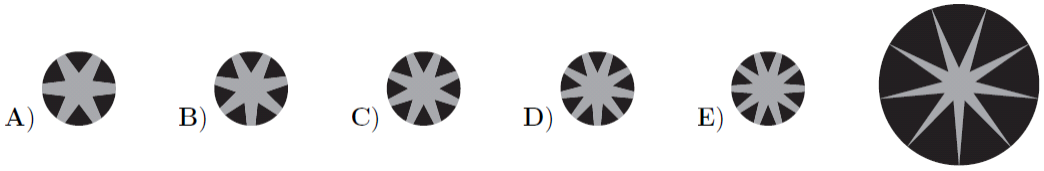
A) *a* B) *b* C) *c* D) *d* E) *e*

Math Kangaroo 2014 Sample Questions

LEVELS 3 AND 4

SAMPLE QUESTION FOR 3 POINTS

Which small figure could be the central part of the larger figure with the star?



SAMPLE QUESTION FOR 4 POINTS

There were some pieces of candy in a bowl. Sally took half of the pieces of candy. Then Tom took half of the pieces left in the bowl. After that Clara took half of the remaining pieces. In the end there were 6 pieces of candy in the bowl. How many pieces of candy were in the bowl at the beginning?

A) 12 B) 18 C) 20 D) 24 E) 48

SAMPLE QUESTION FOR 5 POINTS

Eve arranged cards in a line as shown below. In one move, Eve can switch the places of any two cards. What is the smallest number of moves Eve needs to make to get the word KANGAROO?

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

Math Kangaroo 2014 Sample Questions

LEVELS 3 AND 4 ANSWERS

SAMPLE QUESTION FOR 3 POINTS

Which small figure could be the central part of the larger figure with the star?

A)  B)  C)  **D)**  E)  

SAMPLE QUESTION FOR 4 POINTS

There were some pieces of candy in a bowl. Sally took half of the pieces of candy. Then Tom took half of the pieces left in the bowl. After that Clara took half of the remaining pieces. In the end there were 6 pieces of candy in the bowl. How many pieces of candy were in the bowl at the beginning?

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Math Kangaroo 2014 Sample Questions

LEVELS 5 AND 6

SAMPLE QUESTION FOR 3 POINTS

Arnold spelled the word KANGAROO with cards showing one letter at a time. Unfortunately, some cards were rotated. By turning the K card back by 90^o twice he can correct the letter K, and by turning the first A card once he can correct the first A (see the figures). How many times does he need to rotate by 90^o for all of the letters to be correct?

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

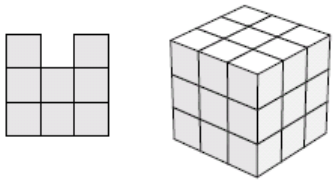
SAMPLE QUESTION FOR 4 POINTS

Henry and John started walking from the same point. Henry went 1 km north, 2 km west, 4 km south and finally 1 km west. John went 1 km east, 4 km south and 4 km west. Which of the following must be the final part of John's walk in order to reach the point where Henry ended his walk?

A) He has already reached the same point. B) 1 km north
C) 1 km north-west D) More than 1 km north-west E) 1 km west

SAMPLE QUESTION FOR 5 POINTS

The 3 x 3 x 3 cube in the picture is made of 27 small cubes. How many small cubes do you have to take away to see the picture on the left as the result when looking from the right, from above, and from the front?



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

Math Kangaroo 2014 Sample Questions

LEVELS 5 AND 6 ANSWERS

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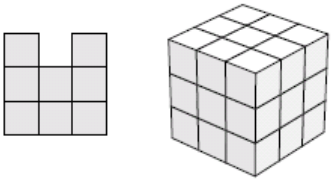


A) 4 B) 5 C) 6 **D) 7** E) 9

Math Kangaroo 2014 Sample Questions

LEVELS 7 AND 8

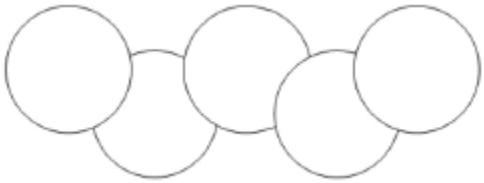
SAMPLE QUESTION FOR 3 POINTS

Each year, the date of the Kangaroo competition is the third Thursday of March. What is the latest possible date of the competition in any year?

A) March 14th B) March 15th C) March 20th D) March 21st E) March 22nd

SAMPLE QUESTION FOR 4 POINTS

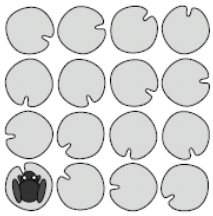
In the diagram, the area of each circle is 1 cm^2. The area common to two overlapping circles is 1/8 cm^2. What is the area of the region covered by the five circles shown?



A) 4 cm^2 B) 9/2 cm^2 C) 35/8 cm^2 D) 39/8 cm^2 E) 19/4 cm^2

SAMPLE QUESTION FOR 5 POINTS

On a pond there are 16 water lily leaves in a 4 by 4 pattern as shown. A frog sits on a leaf in one of the corners. It then jumps from one leaf to another either horizontally or vertically. The frog always jumps over at least one leaf and never lands on the same leaf twice. What is the greatest number of leaves (including the one it is sitting on) that the frog can reach?



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

Math Kangaroo 2014 Sample Questions

LEVELS 7 AND 8 ANSWERS

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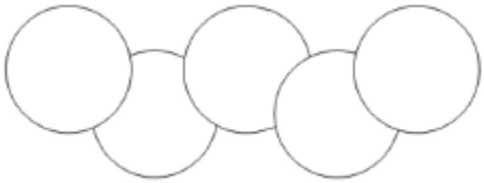

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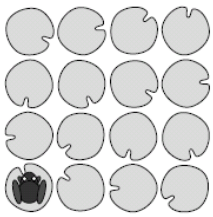


A) 16 B) 15 C) 14 D) 13 E) 12

Math Kangaroo 2014 Sample Questions

LEVELS 9 AND 10

SAMPLE QUESTION FOR 3 POINTS

The MSC Fabiola is the largest container ship to ever enter San Francisco Bay. It carries 12500 containers which if placed end-to-end would stretch about 75 km. Roughly, what is the length of one container?

A) 6 m B) 16 m C) 60 m D) 160 m E) 600 m

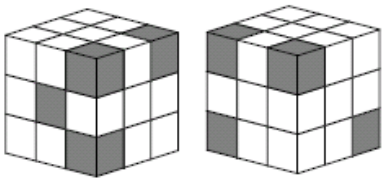
SAMPLE QUESTION FOR 4 POINTS

This year, a grandmother, her daughter, and her granddaughter can say that the sum of their ages is 100. In what year was the granddaughter born if each of their ages is a power of 2?

A) 1998 B) 2006 C) 2010 D) 2012 E) 2013

SAMPLE QUESTION FOR 5 POINTS

The picture shows the same cube from two different views. It is made up of 27 small cubes, some of which are gray and some white. What is the largest number of gray cubes there could be?



A) 5 B) 7 C) 8 D) 9 E) 10

Math Kangaroo 2014 Sample Questions

LEVELS 9 AND 10 ANSWERS

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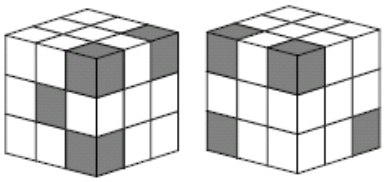


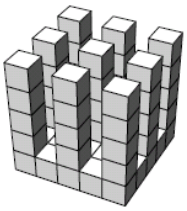
A) 5 B) 7 C) 8 **D) 9** E) 10

Math Kangaroo 2014 Sample Questions

LEVELS 11 AND 12

SAMPLE QUESTION FOR 3 POINTS

If you take a certain number of $1 \times 1 \times 1$ cubes out of a $5 \times 5 \times 5$ cube, you end up with a solid figure consisting of columns of the same height, which stand on the same ground plate (see figure). How many small cubes were taken out?



A) 56 B) 60 C) 64 D) 68 E) 80

SAMPLE QUESTION FOR 4 POINTS

In a soccer match, the winner gets 3 points, the loser gets 0 points, and in the case of a tie each team gets 1 point. Four teams, *A*, *B*, *C*, and *D*, take part in a soccer tournament. Each team plays three games, one against each of the other teams. At the end of the tournament team *A* has 7 points and teams *B* and *C* have 4 points each. How many points does team *D* have?

A) 0 B) 1 C) 2 D) 3 E) 4

SAMPLE QUESTION FOR 5 POINTS

There are 10 different positive integers. Exactly 5 of them are divisible by 5 and exactly 7 of them are divisible by 7. Let *M* be the greatest of these 10 numbers. What is the minimum possible value of *M*?

A) 105 B) 77 C) 75 D) 63 E) none of these

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LEVELS 11 AND 12 ANSWERS

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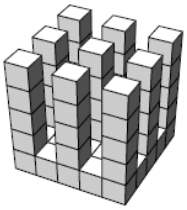

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