wizSMART 2009

EUROPESE KANGOEROE REKEN- EN WISKUNDEWEDSTRIJD

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www.math.ru.nl/kangoeroe

Good luck
and most of
all have fun.

calculator not allowed

you may use 50 minutes

scrap paper is allowed

results and awards at school mid-May

24th March the answers will be on the website

24th March the explanations will be on the website

wizSMART
7 & 8 primary school and 1 & 2 vmbo,
vmbo 3 & 4 basisberoepsgerichte leerweg

1. Which result is even?

   A. 2 + 0 + 0 + 9   **B.** 200 – 9   **C.** 200 + 9   **D.** 200 x 9   **E.** 2000 + 9

2. Where is the kangaroo?

   A. Inside the circle and inside the triangle, but not inside the square.
   B. Inside the circle and inside the square, but not inside the triangle.
   C. Inside the triangle and inside the square, but not inside the circle.
   D. Inside the circle, but not inside the square and not inside the triangle.
   E. Inside the square, but not inside the circle and not inside the triangle.

3. How many whole numbers are in between 2.009 and 19.03?

   A. 15   **B.** 16   **C.** 17   **D.** 18   **E.** 19

4. All digits shown are made with matches. You lay down two different digits with matches.
   How many matches do you need to be able to lay down every pair of different digits?

   A. 10
   B. 11
   C. 12
   D. 13
   E. 14

5. There are a white box, a green box and a red box. One box is empty, one box contains a chocolate bar
   and one box contains an apple. The apple is neither in the white box nor in the green box.
   The chocolate bar is in the white box or in the red box.
   Which box is empty?

   A. green   **B.** orange   **C.** red   **D.** white   **E.** you cannot tell

6. How many faces does the object alongside have?
   The front and the back look the same.

   A. 3   **B.** 5   **C.** 6   **D.** 8
   E. 12

7. A tree trunk lies straight across a 12 metre wide river. One quarter of the tree trunk lies on the left bank of
   the river. There is also one quarter of the tree trunk on the right bank of the river.
   How long is the tree trunk?

   A. 15 m   **B.** 18 m   **C.** 21 m   **D.** 24 m   **E.** 27 m

8. Part of a floor is tiled with square tiles.
   The tiles have various sizes.
   The smallest tile has sides of 20 cm.
   How many cm is the length of the thick line?

   A. 380   **B.** 400   **C.** 420   **D.** 440   **E.** 1680

9. There are dogs and cats in the room. There are twice as many cat's paws as dog's noses.
How many dogs are in the room?

A. six times as many as cats **B.** four times as many as cats
C. twice as many as cats **D.** as many dogs as cats
**E.** half as much as cats

10. Ian looks upon the number 12323314 as an ugly number. He would like to remove a number of digits to get a number that reads the same from front to back as from back to front.
What is the smallest number of digits that Ian will have to remove?

A. 1 **B.** 2 **C.** 3 **D.** 4 **E.** 5

11. 39 Boys and 23 girls are members of a dancing club.
Every month 6 new boys and 8 new girls become member of the club and no one leaves.
After a number of months as many boys as girls are member of the club.
How many members does the club have then?

A. 144 **B.** 154 **C.** 164 **D.** 174 **E.** 184

12. Two rectangles, one of 8 by 10 and one of 9 by 12, are partly overlapping.
The black region has area 37.
What is the area of the grey region?
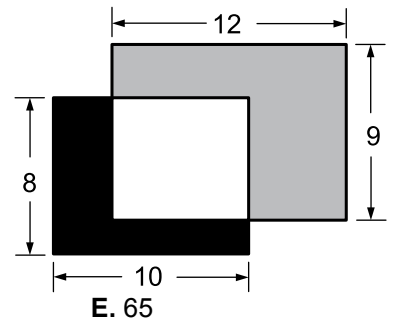
A. 60 **B.** 62 **C.** 62,5 **D.** 64 **E.** 65

13. In a fencing tournament Agnes, Bernadette, Carmen and Diana won the first four places.
When you add the place numbers of Agnes, Bernadette and Diana, you will get 6.
You will get the same outcome when you add the place numbers of Bernadette and Carmen.
Bernadette was better in the tournament than Agnes.
Who won first place?

A. Agnes **B.** Bernadette **C.** Carmen **D.** Diana **E.** you cannot tell

14. The tower is built up from three shapes: a square, a rectangle and a triangle with three equal sides.
The three shapes have the same *perimeter*.
The side of the square is 9 cm.
How many cm is the side of the rectangle with the question mark?
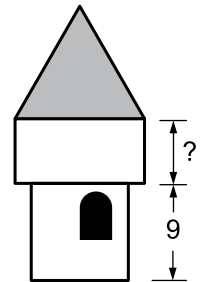
A. 4 **B.** 5 **C.** 6 **D.** 7 **E.** 8

15. Alongside you see a complete domino set of 28 stones.
How many pips (dots) are there on all domino stones together?
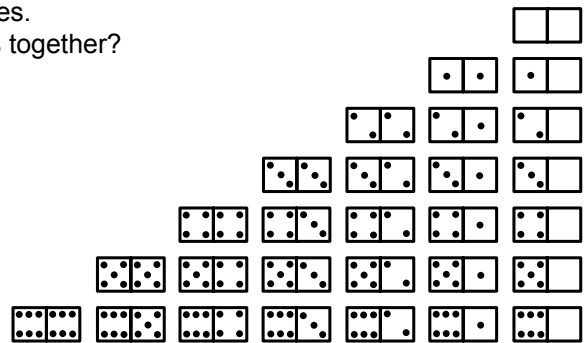
A. 84 **B.** 105 **C.** 126
D. 147 **E.** 168

16. Francine starts reading a book of 290 pages on Sunday.
Every Sunday she reads 25 pages and on each of the other days she reads 4 pages.
In how many days does she finish the book?

A. 5 **B.** 35 **C.** 40 **D.** 41 **E.** 42

17. In the corners of a square of side 10 cm small squares of side 2 cm are drawn.
What is the area of the grey region in cm²?
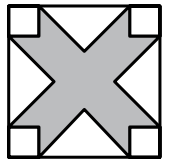
A. 42   **B.** 46   **C.** 48   **D.** 52   **E.** 58

18. Little Jo wants to fill a box of 30 cm by 30 cm by 50 cm with little cubes, all of the same size.
How many little cubes does little Jo need at least?

A. 30   **B.** 45   **C.** 75   **D.** 150   **E.** 360

19. In every box one of the letters A, B, C or D has to be filled in.
Boxes that have one or more common vertices may not get the same letter.
Alongside a start has been made.
Which letter can go in the grey box?

A. only A   **B.** only B   **C.** only C   **D.** only D
E. there are more possibilities

20. In the country Farawayghistan everybody has peculiar feet. For everybody the shoe size of the left
foot is one or two sizes bigger than the shoe size of the right foot.
But in Farawayghistan shoes are only sold in pairs the same size.
A group of friends buy shoes together. Each one of the friends now has shoes that fit.
Two shoes are left over: one size 36 and one size 45.
What is the smallest number of friends the group can have?

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

21. Below are four sentences about an unknown number:
the number is divisible by 5;
the number is divisible by 11;
the number is divisible by 55;
the number is smaller than 10.
Exactly two of these sentences are true; the other two sentences are false.
What is the unknown number?

A. 1   **B.** 5   **C.** 10   **D.** 11   **E.** 55

22. The room numbers of a hotel consist of three digits The first number indicates the floor of the room,
the last two indicate the number of the room. For example 107 is room 7 on the 1st floor.
The hotel has five floors numbered from 1 to 5.
On each floor there are 35 rooms, each time numbered from 1 to 35.
When you write down all room numbers, how many times do you write a 2?

A. 60   **B.** 65   **C.** 95   **D.** 100   **E.** 105

23. Eight cards are numbered from 1 to 8. You put three cards in box A and five in box B. Adding the
numbers on the cards in box A you will get the same result as adding the numbers on the cards in box B.
Which of the following sentences is true for sure?

A. Three cards in box B have odd numbers (and two have even numbers).
B. Card number 5 is in box B.
C. Card number 1 is not in box B.
D. Card number 2 is in box B.
E. Four cards in box B have even numbers (and one has an odd number).

24. In the table alongside the first row started with the numbers 10 and 3.
In every row that follows we write the result of the two numbers above added on the
left and we write the result of the two numbers above subtracted on the right.
As you can see the table ends in the fourth row with the numbers 26 and 14.
Inez also made a table like this and she did end with the numbers 96 and 64.
What is the greater of the two numbers Inez started with in the first row?

10	3
13	7
20	6
26	14

A. 24   **B.** 28   **C.** 32   **D.** 36   **E.** 40