European contest - game
"Math Kangaroo" 2003
Grades 5 and 6

Part A: Each correct answer is worth 3 points.

1) Which of the following is the greatest number?

A) 2 + 0 + 0 + 3 B) 2 x 0 x 0 x 3 C) (2 +0) x (0 + 3)
D) 20 x 0 x 3 E) (2 x 0) + (0 x 3)

2) Sophie draws kangaroos: a blue one, then a green, then a red, then a black, a blue, a green, a red, a black, and so on…What colour is the 29th kangaroo?

A) blue B) green C) red D) black E) it's impossible to know

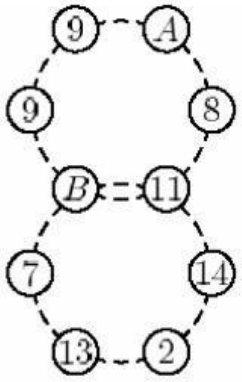
3) How many integers can one find in the interval from 2.09 to 15.3?

A) 13 B) 14 C) 11 D) 12 E) infinitely many

4) Which is the smallest positive integer divisible by 2, 3, and 4?

A) 1 B) 6 C) 12 D) 24 E) 36

5) The sum of the numbers in each ring should be 55. What is the value of *A*?



A) 9 B) 10 C) 13 D) 16 E) 17

6) Tom has 9 bills of 100 euro, 9 bills of 10 euro, and 10 coins of 1 euro. How many euro does he have in total?

A) 1000 B) 991 C) 9910 D) 9901 E)99010

7) Betty likes calculating the sum of the digits that she sees on her digital clock (for instance, if the clock shows 21:17, then Betty gets 11). What is the biggest sum she can get if the clock is a 24-hour clock?

A) 24 B) 36 C) 19 D) 25 E) another answer

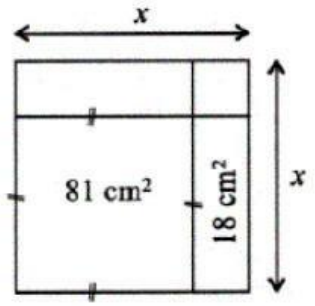
8) In the picture, AC=10m, BD=15m, AD=22m.
Find BC.
A) 1m; B) 2m; C) 3m; D) 4m; E) 5m



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LIVEWORKSHEETS

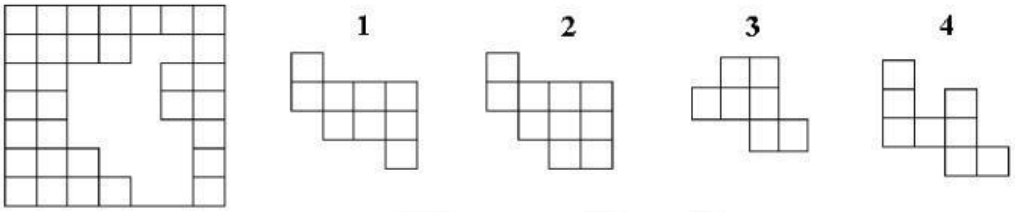
Part B: Each correct answer is worth 4 points.

9) 

How long (in cm) is the segment denoted by x?

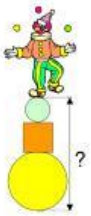
A) 9 cm B) 2 cm C) 7 cm D) 11 cm E) 10 cm

10) Which two of these figures can one use to cover exactly the empty area?



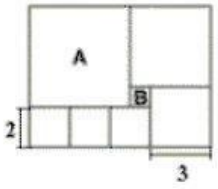
A) 1+3 B) 2+4 C) 2+3 D) 1+4 E) 3+4

11) The picture shows Dave the clown dancing at the top of two balls and one cubic box. The radius of the lower ball is 6 dm, the radius of the upper ball is three times less. The side of the cubic box is 4 dm longer than the radius of the upper ball. How high above the ground is Dave standing?



A) 14 dm B) 20 dm C) 22 dm D) 24 dm E) 28 dm

12) The figure, shown in the picture, consists of 7 squares. Square A is the biggest one; square B – the smallest one. How many squares B can square A be divided into?



A) 16 B) 25 C) 36
D) 49 E) it is impossible to decide

13) $\frac{2003+2003+2003+2003+2003}{2003+2003}$ =?

A) 2003 B) $\frac{1}{3}$ C) 3 D) $\frac{5}{2}$ E) 6009

14) Benito has 20 small balls of different colours: yellow, green, blue and black. 17 of the balls are not green, 5 are black, 12 are not yellow. How many blue balls does Benito have?

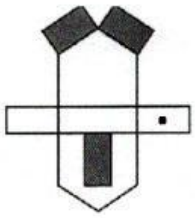
A) 3 B) 4 C) 5 D) 8 E) 15

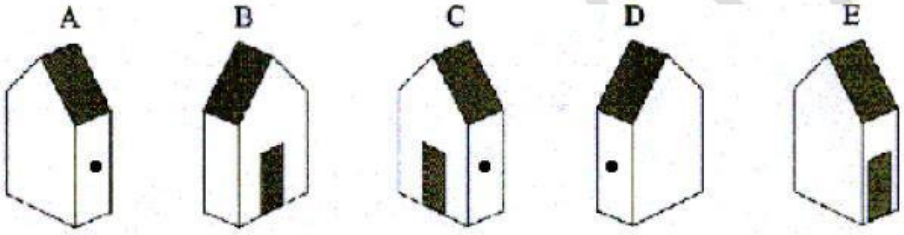
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15) There are 17 trees along the road from Basil's home to a pool. Basil marked some trees with a red strip as follows. On his way to his swimming lesson he has marked the first tree, and then every second tree, and on his way back, again, he has marked the first tree, and then every third tree. How many trees have no mark after that?

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

16) The picture on the right has been drawn on paper and cut out to make a house. Which of the houses did it become?

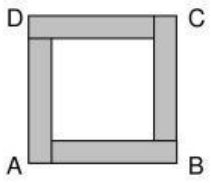




A) B) C) D) E)

Part C: Each correct answer is worth 5 points.

17) Square ABCD is comprised of one inner square (white) and four coloured congruent rectangles. Each coloured rectangle has a perimeter of 40 cm. What is the area of square ABCD?



A) 400 cm^2 B) 200 cm^2
C) 160 cm^2 D) 100 cm^2 E) 80 cm^2

18) What date will it be exactly 2003 minutes after 20-03-2003 at 20:03

A) 21-03-2003 B) 22-03-2003 C) 23-03-2003 D) 21-04-200 E) 22-04-2003

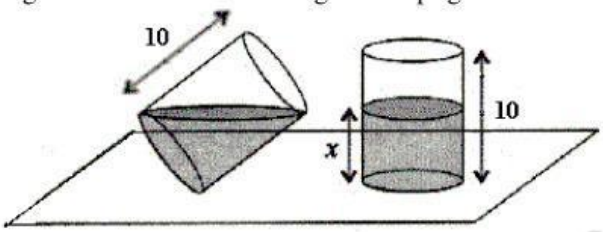
19) A barcode is formed by 17 black bars and white bars between them (the first and the last bar is black). There are two types of black bars: wide and narrow. The number of white bars is 3 more than the number of wide black bars. The number of narrow black bars is:



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

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20) A cylindrical glass that is 10cm high is partially filled with water. You see the glass in two positions. What is the height of the water when the glass is upright?

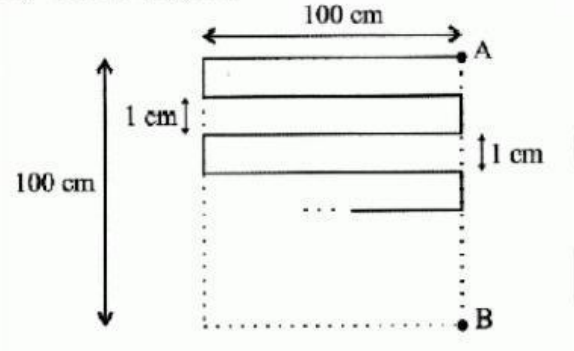


A) 3cm B) 4cm C) 5cm D) 6cm E) 7cm

21) You have six sticks of lengths 1 cm, 2 cm, 3 cm, 2001 cm, 2002 cm and 2003 cm. You have to choose three of these sticks and form a triangle. How many different choices of three sticks are there which work?

A) 1 B) 3 C) 5 D) 6 E) more than 50

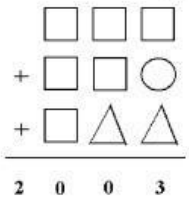
22) Use the diagram:

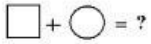


What is the length of the broken line from A to B?

A) 10200 cm B) 2500 cm C) 909 cm D) 10100 cm E) 9900 cm

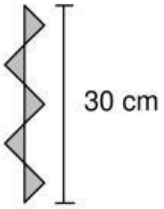
23) Here is one addition example: each shape replaces a digit, different shapes replace different digits and same shapes replace the same digit. What is the sum of the "square" and the "circle"?





A) 6 B) 7 C) 8 D) 9 E) 13

24) The figure on the drawing consists of five isosceles right triangles of equal size. Find the area of the shaded figure.



A) 20 cm^2 B) 25 cm^2 C) 35 cm^2
D) 45 cm^2 E) cannot be determined

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