Benjamins 2004

3 points

1. How much is 1000-100+10-1 ?

A) 111 B) 900 **C) 909** D) 990 E) 999

2. Minous has 16 cards: 4 spades (♠), 4 clubs (♣), 4 diamonds (♦) and 4 hearts (♥). She wants to put them down in the square below, in such a way that every row and every column has a card of each sort. In the square below you see how she started. What sort must be put in the place of the question mark?

♠		?	♥
♣	♠		
	♦		
	♥		

A. ♠ B. ♣ **C. ♦** D. ♥ E. you can't be sure

3 . $(10 \times 100) \times (20 \times 80) =$

A) 20000×80000 B) 2000×8000 C) 2000×80000
D) 20000×8000 **E) 2000×800**

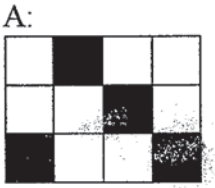
4. 360 000 seconds is the same as :

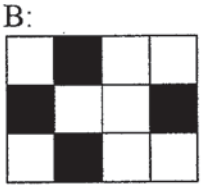
A) 3 hours B) 6 hours C) 8.5 hours D) 10 hours **E) more than that**

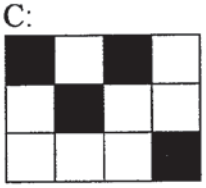
5. Edward collects 2004 pine cones. He sorts them into piles of five cones each. How many five-cone piles can he get ?

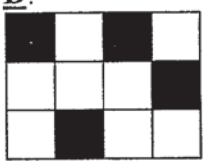
A) 5 **B) 400** C) 401 D) 402 E) 404

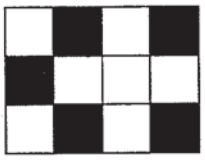
6. Which of the rectangles (A) to (E) can be covered by the pattern on the right hand side in such a way that the result is a totally black or totally white rectangle?

A: 

B: 

C: 

D: 

E: 

7. Which of the following is *not* a factor of 2004 ?

A) 3 B) 4 C) 6 **D) 8** E) 12

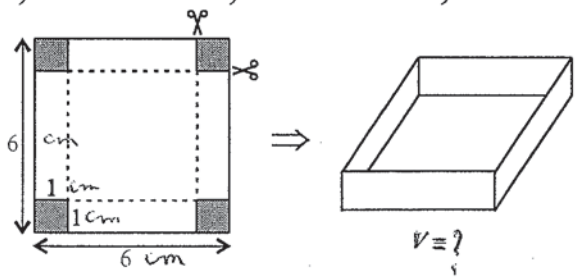
8 The three members of a rabbit familly have alltogether eaten 73 carrots. The father has eaten five carrots more than the mother. The son Bunny has eaten 12 carrots. How many carrots has the mother eaten ?

A) 27 **B) 28** C) 31 D) 33 E) 56

9. Nine bus stops are equally spaced along a bus route. The distance from the first stop to the third stop is 600 m. How far is it from the first to the last?

A) 1200 m B) 1500 m C) 1800 m **D) 2400 m** E) 2700 m

10.

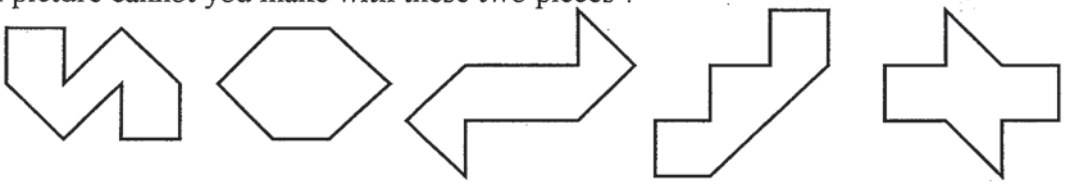


A) 25 cm^3 B) 36 cm^3 C) 30 cm^3 **D) 16** cm^3 E) 24 cm^3

4 points

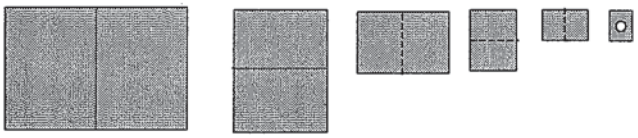
11. You have two identical pieces, that you cannot put upside down.

Which picture cannot you make with these two pieces ?



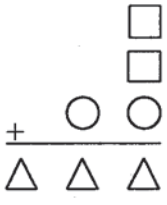
A B C **D** E

12. Harry folds a sheet of paper five times. Then he makes a hole in the folded paper, after which he unfolds it. How many holes has the unfolded paper?.



A. 6 B. 10 C. 16 D. 20 **E. 32**

13. Different figures represent the different digits. Find the digit corresponding to the square.

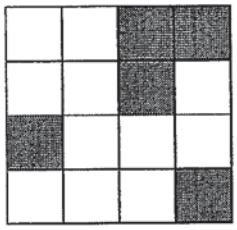


A: 9 B: 8 C: 7 **D: 6** E: 5

14. The weight of 3 apples and 2 oranges is 255 g.
The weight of 2 apples and 3 oranges is 285 g.
Each apple weights the same and each orange weights the same. What is the weight of 1 apple and 1 orange together ?
A.- 110 g **B.- 108 g** C.- 105 g D.- 104 g E.- 102 g

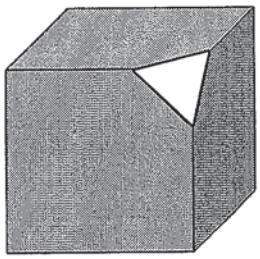
15. The best mathematician of the 7th form was asked to guess the natural number about which his friends said the following statements :
Tom : "This number is 9"
Roman : "This number is prime"
Andre : "This number is even"
Michael : "This number is 15"
Roman and Tom told together one true statement, as well as Andrew and Michael. This number is :
A: 1 **B: 2** C: 3 D: 9 E: 15

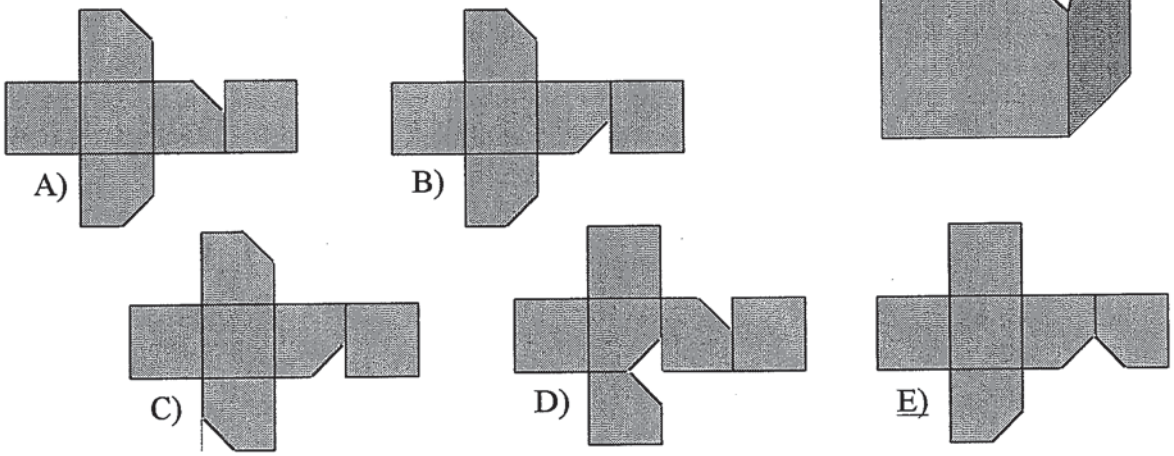
16. What is the least number of little squares necessary to paint to get at least one axis of symmetry in the picture ?



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

17. We have cut off one corner of a cube. Which of the developments below is the development of the remaining part ?





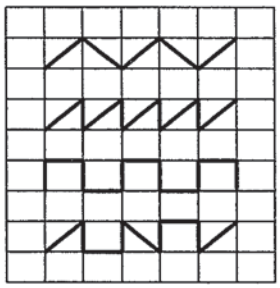
18. Snail quadruplets have gone hiking on a path paved with identical rectangular tiles. The shape and length of each snail's trip is shown below. How many decimetre has the snail Tin hiked ?

Fin snail hiked 25 dm.

Pin snail hiked 37 dm.

Rin snail hiked 38 dm.

Tin snail hiked ? dm



A) 27 dm B) 30 dm **C) 35 dm** D) 36 dm E) 40 dm

19. The island of Turtles has an unusual weather system : on Mondays and Wednesdays it's always rainy, on Saturdays it's foggy and the other days are sunny. A group of tourists would like to go on a 44-day long holiday to the island. Which day in the week should be their first day of holiday in order to enjoy the most of the sunny days ?

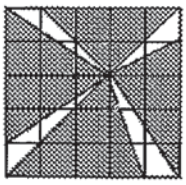
A) Monday B) Wednesday **C) Thursday** D) Friday E) Tuesday

20. The sum of two natural numbers is equal to 77. If the first number is multiplied by 8 and the second by 6, then those products are equal. The larger of these numbers is

A) 23 B) 33 C) 43 **D) 44** E) 54

5 points

21. In the diagram drawn on the square grid, find the ratio of the unshaded area to the shaded area.



A) 1/4 B) 1/5 C) 1/6 D) 2/5 E) 2/7

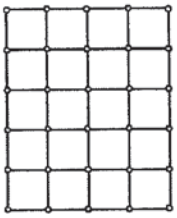
22 Ela and Ola went mushrooming. They have found 70 mushrooms. $\frac{5}{9}$ of the mushrooms Ela has found are boletuses and $\frac{2}{17}$ of the mushrooms Ola has found are orange milk lactars. How many mushrooms has Ela found ?

A. 27 **B. 36** C. 45 D. 54 E. 10

23. On the picture we have 11 fields. In the first field number 7 is written and in the ninth field we have number 6. What natural number has to be placed in the second field if the following condition has to valid: sums of each three successive fields are equal to 21 ?

A) 7 **B)** 8 C) 6 D) 10 E) 21

24. The net in the figure was made from pearls and strings. How many strings have to be cut to make a closed ring with all pearls to have a necklace ?



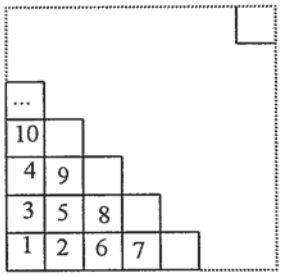
A) 18 **B) 19** C) 20 D) 21

E) it is impossible to make such a necklace

25. In a CD-store two CD's have the same price. The first CD becomes 5 % cheaper, the other one increases 15% in price. Now the two prices differ by € 6. What is the price of the cheapest CD now ?

A. € 1,50 B. € 6 **C. € 28,50** D. € 30 E. € 34,50

26. You put a number in each square as shown in the square figure. Then, the number x can not be :



A) 128 B) 256 C) 81 D) 121 E) 400

27. Bill divided $\underbrace{111\ldots1}_{2004}$ by 3. Then the number of zeros of the obtained quotient is equal to

A) 670 B) 669 C) 668 **D) 667** E) 665

28. Imagine that you have 108 red balls and 180 green balls. You want to distribute all of them in bags and it must be the same number of balls of each colour in each bag. What is the minimum number of bags you need ?

A) 288 B) 36 C) 18 **D) 8** C) 1

29. In the Kangooroo Summer Camp in Zakopane a math competition was organized with 10 problems. Each correct answer was worth 5 points. 3 points were deducted for each incorrect answer. Everybody answered all the problems. Mate had 34 points, Zsolt had 10 points and Gábor had 2 points. How many good answers did they together have ?

A) 17 B) 18 C) 15 D) 13 E) 21

30. A right triangle with legs of length 6 cm and 8 cm is cut out of the paper and then folded along some straight line. What can be the area of the resulting polygon ?.

(A) 9 cm^2 (B) 12 cm^2 **(C) 18 cm^2** (D) 24 cm^2 (E) 30 cm^2