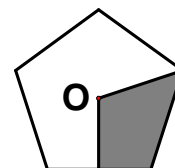# Cadet: Class (7-8)

3-Point-Problems

1. The contest Kangaroo in Europe has taken place every year since 1991. So, the contest Kangaroo in 2006 is the
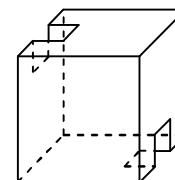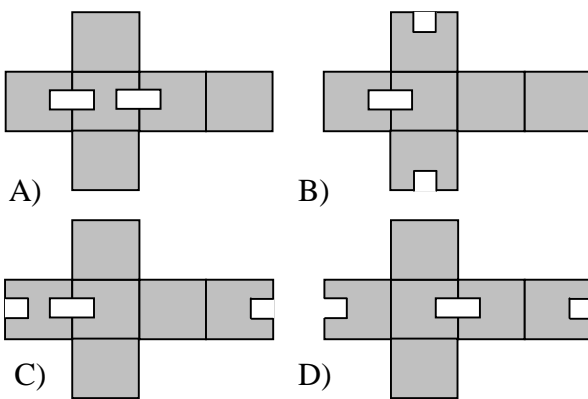   A) 15th B) 16th C) 17th D) 14th

2. $20×(0+6) – (20×0)+6 =$
   A) 106   B) 114   C) 126   D) 12

3. The point O is the center of a regular pentagon. How much of the pentagon is shaded?
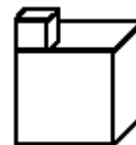   A) 20%   B) 25%   C) 30%   D) 40%

4. Fatima told her grandchildren: "If I give 2 toffees each of you I am left with 3 toffees. But if I try to give 3 toffees each of you I face a short of 2 toffees." How many grandchildren does Fatima have?
   A) 3   B) 4   C) 5   D) 6

5. A cube with two holes in the right picture has one of the following nets:

6. An interview of 2006 schoolchildren from Minsk (capital of Belorussia) revealed that 1500 of them participated in the "Kangaroo" contest, 1200 - in the "Bear cub" competition. How many from the interviewed children participated in both competitions, if 6 of them did not participate in either of the competitions?

   A) 300   B) 500   C) 600   D) 700

7. The solid in the picture is created from two cubes. The small cube with edges 1 cm long is placed on the top of a bigger cube with edges 3 cm long. What is the surface area of this solid?
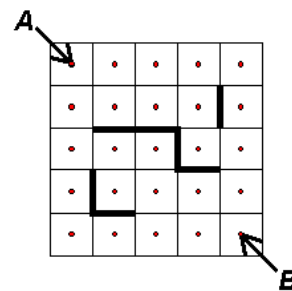
A) 56 cm^2 B) 58 cm^2 C) 59 cm^2 D) 60 cm^2

8. A container that can hold 12 litres is $\frac{3}{4}$ full. How much will it contain after 4 litres has been poured out of it?

A) 5   B) 6   C) 8   D) 12

9. Two sides of a triangle are each 7 cm long. The length of the third side is an integer number of centimeters. At most how many centimeters do the perimeter of the triangle measure?

A) 14   B) 15   C) 21   D) 27

10. An air temperature fell 10° in the night but has risen twice in the day and became the same. Find the night temperature of the air.

A) 50   B) 40   C) 30   D) 20

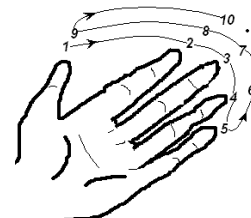## 4-Point-Problems

11. If it's blue, it's round.   That means:
If it's square, it's red.   A) It's red and round
It's either blue or yellow.   B) It's a blue square
If it's yellow, it's square.   C) It's blue and round
It's either square or round.   D) It's yellow and round

12. Three Tuesdays of a month fall on even dates. What day of a week was the 21st day of this month?

A) Wednesday   B) Thursday   C) Friday   D) Sunday

13. Ahmad, Babar and Nizami saved money to buy a tent for a camping trip. Nizami saved 60 % of the price. Ahmad saved 40 % of what was left of the price. This way Babar´ share of the price was 30 Rs. What was the price of the tent?

A) 60 Rs   B) 125 Rs   C) 150 Rs   D) 200 Rs

14. Several strange spacemen are traveling through the space in their rocket STAR 1. They are of three colors: green, orange or blue. Green men have two arms, orange men have three arms and blue men have five arms. In the spaceship there are as many green men as orange ones and 10 more blue ones than green ones. Altogether they have 250 arms. How many blue men are traveling in the rocket?

A) 15   B) 20   C) 30   D) 40

15. If kangaroo pushes himself with his left leg, he will jump on 2 m, if he pushes with the right leg, he will jump on 4 m, and if he pushes with both legs, he will jump on 7 m. What the least number of jumps should kangaroo make to cover a distance of exactly 1000 m?

A) 142   B) 143   C) 144   D) 250

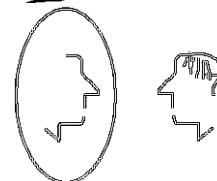**16.** Which number when squared is increased by 500%?
   A) 5 B) 6 C) 7 D) 10

17. Raza and Ijaz have drawn a 4x4-square and marked the centers of the small squares. Afterwards, they draw obstacles and then find out in how many ways it is possible to go from *A* to *B* using the shortest way avoiding the obstacles and going from centre to centre only vertically and horizontally. How many *shortest* paths are there from *A* to *B* under these conditions?
   A) 6 B) 8 C) 9 D) 12

18. Amna counts her fingers in such a way (see figure). So the first finger has a set of numbers: 1, 9, 17… Find the first number for a finger with number 2006
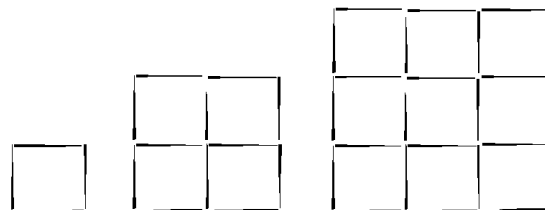   A) 1 B) 2 C) 3 D) 4

19. Find a truly end of the sentence: If your reflection looks on me then
   A) you look on mine reflection   B) my reflection looks on you
   C) you look on me   D) I look on your reflection

20. One fruit of guava has the same number of seeds as 2 tangerines and 11 apples have. One half of guava has the same number of seeds as 4 apples and 3 tangerines. How many apples have the same sum of seeds as 100 tangerines?
   A) 25 B) 50 C) 75 D) 100

5-Point-Problems

21. Shaheen is making patterns with toothpicks according to the schema of the figure. How many toothpicks does Shaheen add to the 10th pattern to make the 11st?
   A) 40 B) 42 C) 44 D) 48

22. A train is composed of four wagons, I, II, III and IV, pulled by a locomotive. In how many ways can the train be composed so that the wagon I is nearer the locomotive that the wagon II?
   A) 4 B) 12 C) 24 D) 256

23. If the sum of three positive numbers is equal to 20, then the product of the two largest numbers among them cannot be
   A) greater than 99   B) less than 0.001   C) equal to 25
   D) equal to 100

24. The natural numbers from 1 to 2006 are written down on the blackboard. Akhlaq underlined all numbers divisible by 2, then all numbers divisible by 3, and then all numbers divisible by 4. How many numbers are underlined precisely twice?
A) 1003   B) 1002   C) 501   D) 334

25. A house has 10 rooms. Ten boys stay in different rooms and count the number of doors in them. After that they sum all results and receive 25. What a proposition can't be true about number N of doors which led outside the house?
A) N=7   B) N=5   C) N=3   D) N=2