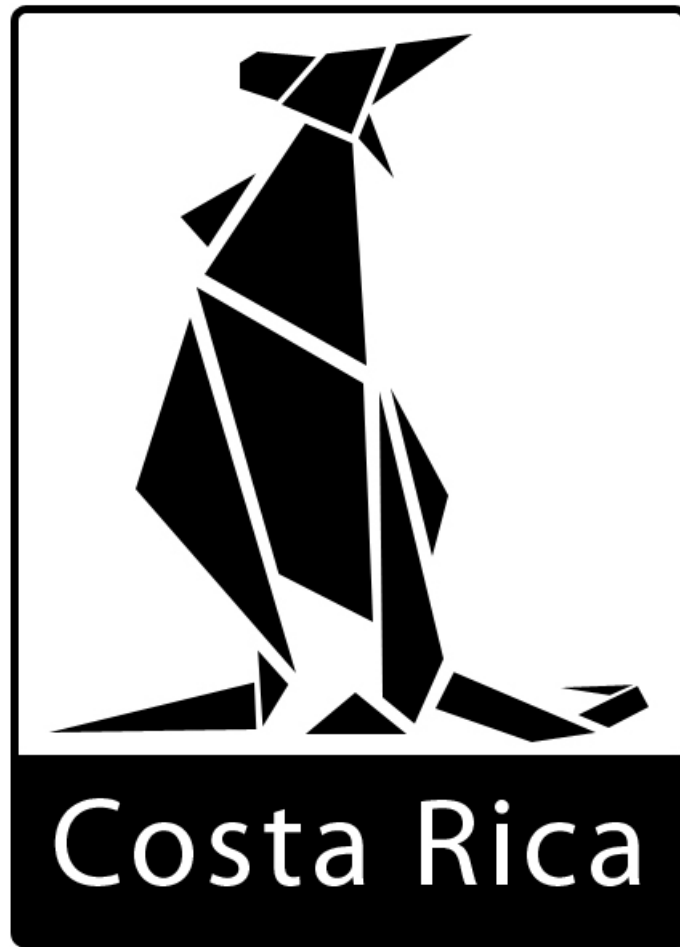


Canguro Matemático



Cadet Test
Seventh grade

Kangourou Sans Frontières

Costa Rica 2016

3 points

1. How many whole numbers are there between 20.16 and 3.17?

- (A) 15 (B) 16 (C) 17 (D) 18 (E) 19

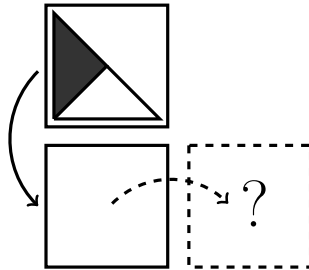
2. Which of the following traffic signs has the largest number of axes of symmetry?

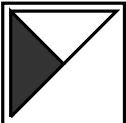



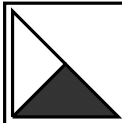
- (A)  (B)  (C)  (D)  (E) 

3. Jenny had to add 26 to a certain number. Instead she subtracted 26 and obtained -14 . What number should she have obtained?

- (A) 28 (B) 32 (C) 36 (D) 38 (E) 42

4. Joanna turns a card over about its lower edge and then about its right-hand edge, as shown. What does she see?



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

5. Kanga combines 555 groups of 9 stones into a single pile. She then splits the resulting pile into groups of 5 stones. How many groups does she get?

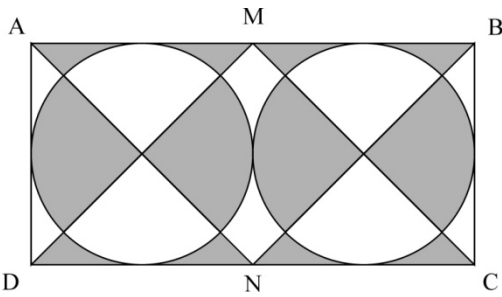
- (A) 999 (B) 900 (C) 555 (D) 111 (E) 45

6. In my school, 60% of the teachers get to school by bike, which is 45 teachers. Only 12% of the teachers use their car to get to school. How many teachers use their car to get to school?

- (A) 4 (B) 6 (C) 9 (D) 10 (E) 12

7. Two pieces of rope have length 1 m and 2 m. Alex cuts the pieces into several parts. All the parts have equal length. Which of the following could not be the total number of parts he obtains?

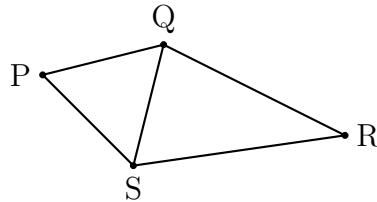
- (A) 6 (B) 8 (C) 9 (D) 12 (E) 15



8. The rectangle's area is 200. What is the shaded area?

- (A) 50 (B) 80 (C) 100 (D) 120 (E) 150

9. Four towns P, Q, R and S are connected by roads, as shown. A race uses each road exactly once. The race starts at S and finishes at Q. How many possible routes are there for the race?



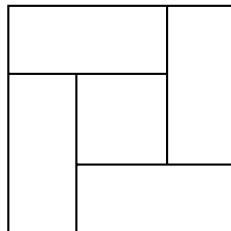
- (A) 10 (B) 8 (C) 6 (D) 4 (E) 2

10. Grandmother bought enough catfood for her four cats to last for 12 days. On her way home she brought back two stray cats. If she gives each cat the same amount of food every day, how many days will the catfood last?

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

4 points

11. The diagram shows four identical rectangles placed inside a square. The perimeter of each rectangle is 16 cm. What is the perimeter of the square?

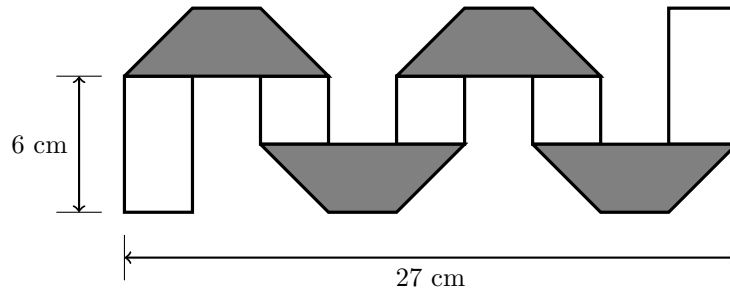


- (A) 16 cm (B) 20 cm (C) 24 cm (D) 28 cm (E) 32 cm

12. Petra has 49 blue beads and one red bead. How many beads must Petra remove so that 90% of her beads are blue?

- (A) 4 (B) 10 (C) 29 (D) 39 (E) 40

18. A 3 cm wide rectangular strip of paper is grey on one side and white on the other. Maria folds the strip, as shown. The grey trapeziums are identical. What is the length of the original strip? (figure just shows folded strip length 27 and part height 6)

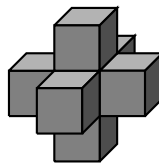


- (A) 36 cm (B) 48 cm (C) 54 cm (D) 57 cm (E) 81 cm

19. Two kangaroos Jum and Per start to jump at the same time, from the same point, in the same direction. After that, they make one jump per second. Each of Jum's jumps is 6 m in length. Per's first jump is 1 m in length, the second is 2 m, the third is 3 m, and so on. After how many jumps does Per catch Jum?

- (A) 10 (B) 11 (C) 12 (D) 13 (E) 14

20. Seven standard dice are glued together to make the solid shown. The faces of the dice that are glued together have the same number of dots on them. How many dots are on the surface of the solid?



- (A) 24 (B) 90 (C) 95 (D) 105 (E) 126

5 points

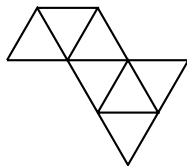
21. There are 20 students in a class. They sit in pairs so that exactly one third of the boys sits with a girl, and exactly one half of the girls sits with a boy. How many boys are there in the class?

- (A) 9 (B) 12 (C) 15 (D) 16 (E) 18

22. Theo's watch is 10 minutes slow, but he believes that it is 5 minutes fast. Leo's watch is 5 minutes fast, but he believes that it is 10 minutes slow. At the same moment, each of them looks at his own watch. Theo thinks it is 12:00. What time does Leo think it is?

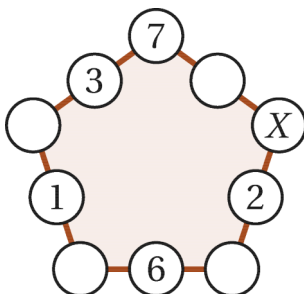
- (A) 11:30 (B) 11:45 (C) 12:00 (D) 12:30 (E) 12:45

23. Clara wants to construct a big triangle using identical small triangular tiles. She has already put some tiles together as shown in the picture. How many tiles does she need to complete a triangle?



- (A) 5 (B) 9 (C) 12 (D) 15 (E) 18

24. Kirsten wrote numbers in 5 of the 10 circles as shown in the figure. She wants to write a number in each of the remaining 5 circles such that the sums of the 3 numbers along each side of the pentagon are equal. Which number will she have to write in the circle marked by X ?



- (A) 7 (B) 8 (C) 11 (D) 13 (E) 15

25. The symbols \bigcirc , \square , and \triangle represent 3 different digits. If you add the digits of the 3-digit number $\bigcirc\square\bigcirc$ the result is the 2-digit number $\square\triangle$. If you add the digits of the 2-digit number $\square\triangle$, you find the 1-digit number \square . Which digit does \bigcirc represent?

- (A) 4 (B) 5 (C) 6 (D) 8 (E) 9

26. Little Red Riding Hood is delivering waffles to three grannies. She starts with a basket full of waffles. Just before she enters each of the grannies' houses, the Big Bad Wolf eats half of the waffles in her basket. When she leaves the third granny's house, she has no waffles left. She delivers the same number of waffles to each granny. Which of the following numbers definitely divides the number of waffles she started with?

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

27. Twelve girls met in a caf. On average, they ate 1.5 cup-cakes. None of them ate more than two cup-cakes and two of them had only mineral water. How many girls ate two cup-cakes?

- (A) 2 (B) 5 (C) 6 (D) 7 (E) 8



Answers

Name: _____

Institution: _____

Grade: _____

01. A B C D E

02. A B C D E

03. A B C D E

04. A B C D E

05. A B C D E

06. A B C D E

07. A B C D E

08. A B C D E

09. A B C D E

10. A B C D E

11. A B C D E

12. A B C D E

13. A B C D E

14. A B C D E

15. A B C D E

16. A B C D E

17. A B C D E

18. A B C D E

19. A B C D E

20. A B C D E

21. A B C D E

22. A B C D E

23. A B C D E

24. A B C D E

25. A B C D E

26. A B C D E

27. A B C D E

28. A B C D E

29. A B C D E

30. A B C D E