Mathematics

Delprov C

Årskurs

6

Elevens namn och klass/grupp

Skolverket

For the tasks in this part, you must show your working. Your working must be clear enough so that another person can read and understand what you mean.

If you make calculations on the calculator they must be shown on the paper. You can be given points for partially solving a problem.

The teacher will assess:
- How you solve the problems.
- What knowledge you show about mathematical concepts.
- Which methods you choose and how you use them.
- How well you show your working.
- How well you use mathematical language.

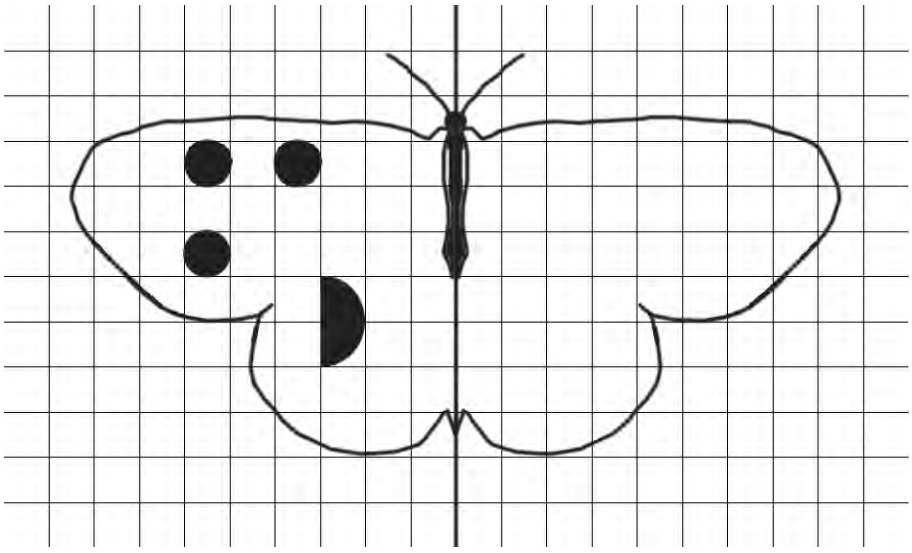
Leo is 13 years old and is in year 6. His dad comes from Brazil. Leo's family are going there next summer when the Olympic Games will take place in the city of Rio de Janeiro.

The Olympic Games, or the Olympics for short, are athletic competitions that take place in different countries every four years. In August 2016 it will be Brazil's turn to host the Olympics. Countries from all over the world will compete against each other in 30 different sports events. Many athletes dream about winning a medal in the Olympics.

Of course there is lots more to see in Rio de Janeiro than just the Olympic events. For example, the city has a big famous statue. Brazil has many lovely beaches and there are rain forests with beautiful nature and many different animals.

13. Leo, both of his parents and his younger sister Sara are going on holiday to Brazil. Leo is 13 years old and Sara is 8. For one person, the journey costs SEK 5 780, but children under the age of 12 pay half price.
How much does the trip cost for the entire family?
Show your working. (2/0/0)

14. Finish the butterfly's pattern. It must be symmetrical. (2/0/0)



15. In a shop, Sara finds the following items that she wants to buy:

Whistle 3.15 BRL
T-shirt 35.00 BRL
Streamer 8.20 BRL

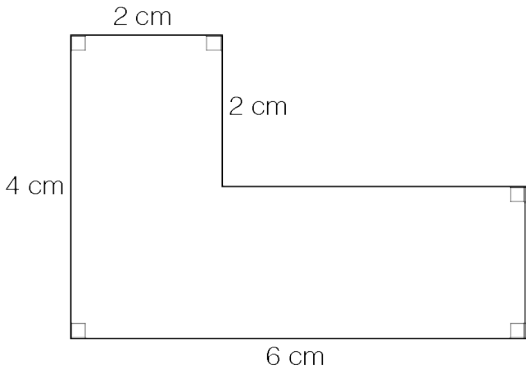
The currency of Brazil is Brazilian real (BRL)
1 BRL = 3 SEK

a) Sara buys four whistles, one T-shirt and two streamers. (2/0/0)
How much does she pay for all items in total?
Answer in BRL.
Show your working.

b) How much will her purchase cost in Swedish Kronor (SEK)? (2/0/0)
Show your working.

16. In Rio de Janeiro there is a tall statue. (1/1/0)
A model of the statue can be bought in a shop.
The model is 19 cm tall and made in the scale of 1:200.
How tall is the real statue? Answer in metres.
Show your working.

17. Calculate the area of the figure. (1/1/0)
Show your working.



18. Leo lays out a pattern with seashells.

Figure 1

Figure 2

Figure 3

Figure 4

a) How many seashells are there in Figure 4 if the pattern continues to increase in the same way?

Write the answer only: _____

b) How many seashells are there in Figure 10? (1/1/0)
Show your working.

c) You only know the number of the figure. (0/1/1)
How can you then decide the number of seashells in the figure?
Explain in words or use a formula.

19. Triathlon is one of the competitions in the Olympic Games.
It consists of three parts with different distances to cover.

Swimming
1 500 m

Cycling
40 km

Running
10 km

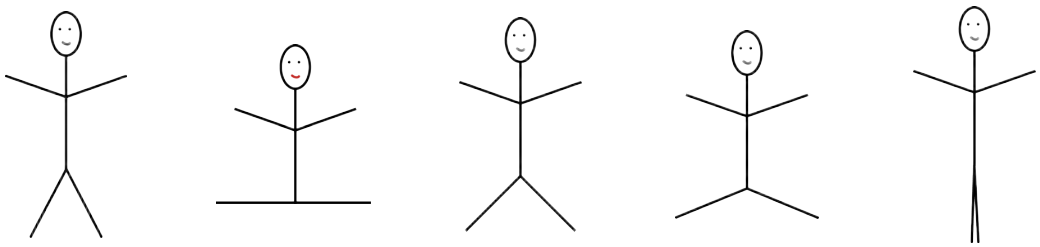
a) What is the total distance that must be covered in the triathlon? (1/1/0)
Answer in kilometres.
Show your working.

b) Here are two results from a triathlon in an Olympic Game. (0/1/1)
What was the time difference?
Show your working.

Name	**Time**
Lisa	1 h 59 min 48 sec
Emma	2 h 1 min 16 sec

20. The silver medal is made of 90 % silver. It weighs 360 g. (0/2/1)
One gram of silver costs SEK 4.50.
How much is the silver in the medal worth?
Show your working.

21. In a gymnastics event, different scores are awarded depending on the size of the angle between the gymnast's legs when they perform a jump. (2/0/0)



Gymnast A Gymnast B Gymnast C Gymnast D Gymnast E

Which gymnast performs a jump with an angle of 90°? *Answer*: _____

Which gymnast performs a jump with an angle of 180°? *Answer*: _____

Which gymnast performs a jump with an angle of 135°? *Answer*: _____

22. A gymnastics team consists of five people. (0/1/2)

- The mean of their ages is 21.
- The youngest two are the same age.
- The oldest one is 11 years older than the youngest two.
- One person on the team is 20 years old. This is also the median.
- The second oldest person in the team is 26 years old.

What are the ages of each team member?
Show your working.

PRIM gruppen