

HIGH 5

The Junior Mathematicians Challenge

Qualifying Test

29th November 2017



question no.	1	2	3	4	5	6	7	8	9	10
marks										

question no.	11	12	13	14	15	16	17	18	19	20
marks										

question no.	21	22	23
marks			

SCORE OBTAINED	
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Read the instructions carefully before the tests starts.

- This test is **1 hour** long.
- The use of calculator and protractor is not permitted during this test.
- Read each question carefully and attempt all questions.
- You do not need to answer the questions in order. Start from whichever question you want. If you cannot do one of the questions, go on to the next one.
- After attempting all the questions, go back and check your work.
- Any students caught cheating or copying will be disqualified.

Do your best!

Section A

Tick (✓) the correct answer in each question.

Each question carries 2 points.

1. Work out the missing number.

$$\square \times 5 = 200 \div 8$$

- a. 5
- b. 25
- c. 40
- d. 50
-

2. There are **65848** spectators at a football stadium.

Round the number of spectators to the nearest hundred.

- a. 65800
- b. 65850
- c. 65900
- d. 66000
-

3. Which of these numbers is exactly divisible by both 6 and 8?

- a. 1
- b. 2
- c. 56
- d. 72
-

4. **Only one** of the following is **always true**?

a. To multiply by ten, you just add a zero on the right hand end of the number.

b. Numbers with more digits are greater in value.

c. Five is less than six, so one fifth must be smaller than one sixth.

d. The sum of three odd numbers is an odd number.

5. $5\frac{4}{5} = 4\frac{\square}{5}$

a. 6

b. 7

c. 8

d. 9

6. Which number is **next** in the **number pattern** below?

5, 11, 23, 47, 95, ...

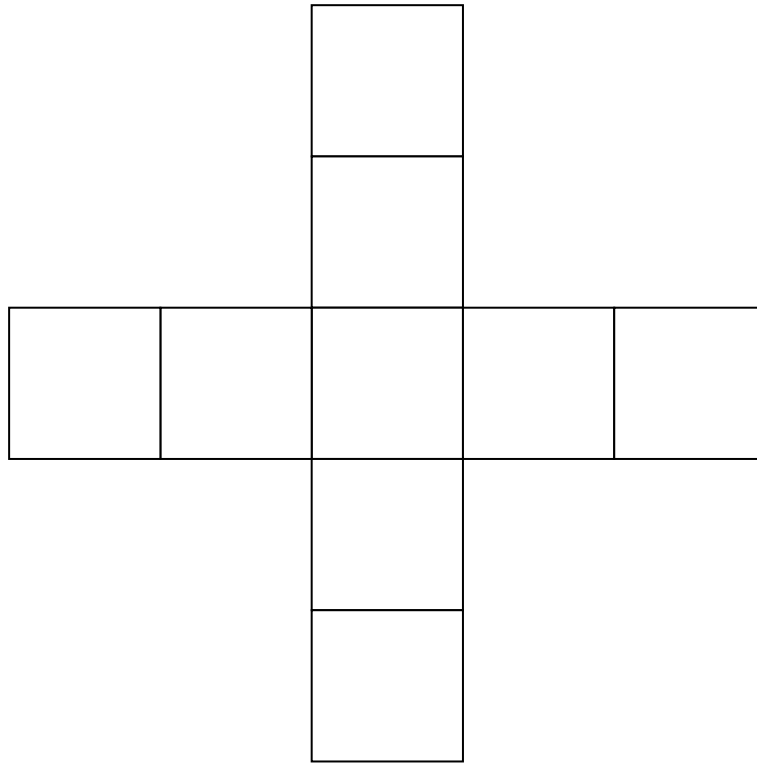
a. 96

b. 101

c. 125

d. 191

7. Fill in the number puzzle below with numbers from **1 to 9**.
Each number can be used **once**.
The **total of the row** and the **total of the column** should be **equal**.



8. I add up all the even numbers between 1 and 51.
Then from the total I subtract all the odd numbers between 0 and 50.
What is the result?

- a. 0
 - b. 25
 - c. 50
 - d. 100
-

9. Angelo has a bag of sugar.
He uses $\frac{1}{4}$ of it to make cookies and another $\frac{3}{8}$ to make muffins.
Now there are **375 grams left** in the bag.

How much sugar was there in the bag at first?

- a. 1 kg
- b. 1.125 kg
- c. 3 kg
- d. 500 g

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10. Amira says her age in a funny way.
She says her age is **10 years, 38 months, 30 weeks and 20 days** old.
How old will she be on her next birthday?

- a. 12 years
 - b. 13 years
 - c. 14 years
 - d. 15 years
-

11. Which of the following is the same as 3•05 litres?

- a. 35 millilitres
- b. 305 millilitres
- c. 3050 millilitres
- d. 30500 millilitres

12. The flight from Malta to Vienna in Austria is $2\frac{3}{4}$ hours long.

The plane landed (arrived) in Vienna at 7:25 a.m. .

At what time did the plane leave from Malta?

- a. 4:10 a.m.
- b. 4:40 a.m.
- c. 4:50 a.m.
- d. 5:10 a.m.



13. 1st October 2018 is a Monday.

1st November 2018 is a:

- a. Tuesday
- b. Wednesday
- c. Thursday
- d. Friday

14. Leo is standing next to his wardrobe.

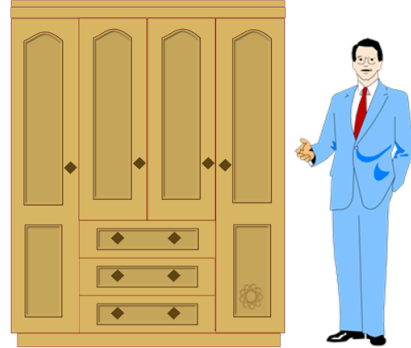
Which of the following could be the **height** of Leo's wardrobe?

a. 180 cm

b. 180 mm

c. 1800 cm

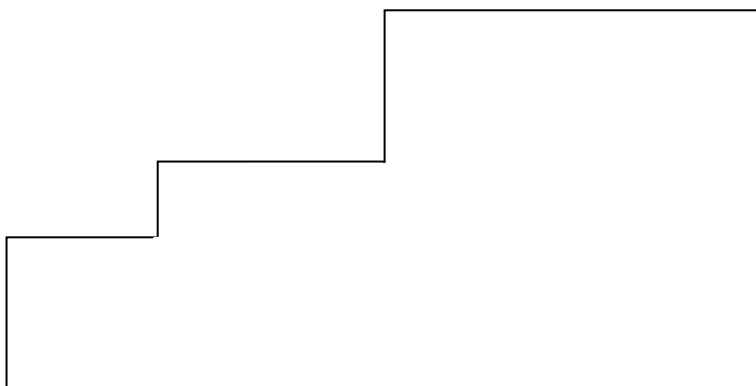
d. 1800 m



15. **Three squares** are placed next to each other to make up a new figure.

Their **perimeters** are **12 cm**, **20 cm** and **28 cm** respectively.

Work out the **perimeter** of the figure below.



not to scale

a. 44 cm

b. 60 cm

c. 112 cm

d. 176 cm

16. Anna, Bertha and Charlene are friends.

One of the girls won the gold medal in a race.

Each of them is telling us something about the gold medal, but **only one of the girls is saying the truth.**

Anna: I won the gold medal.

Bertha: I did not win the gold medal.

Charlene: Anna did not win the gold medal.



Who won the gold medal?

- a. Anna
- b. Bertha
- c. Charlene
- d. We can't tell.

17. Vicky is facing **West**.

She turns **90° clockwise**, then turns **270° anticlockwise**.

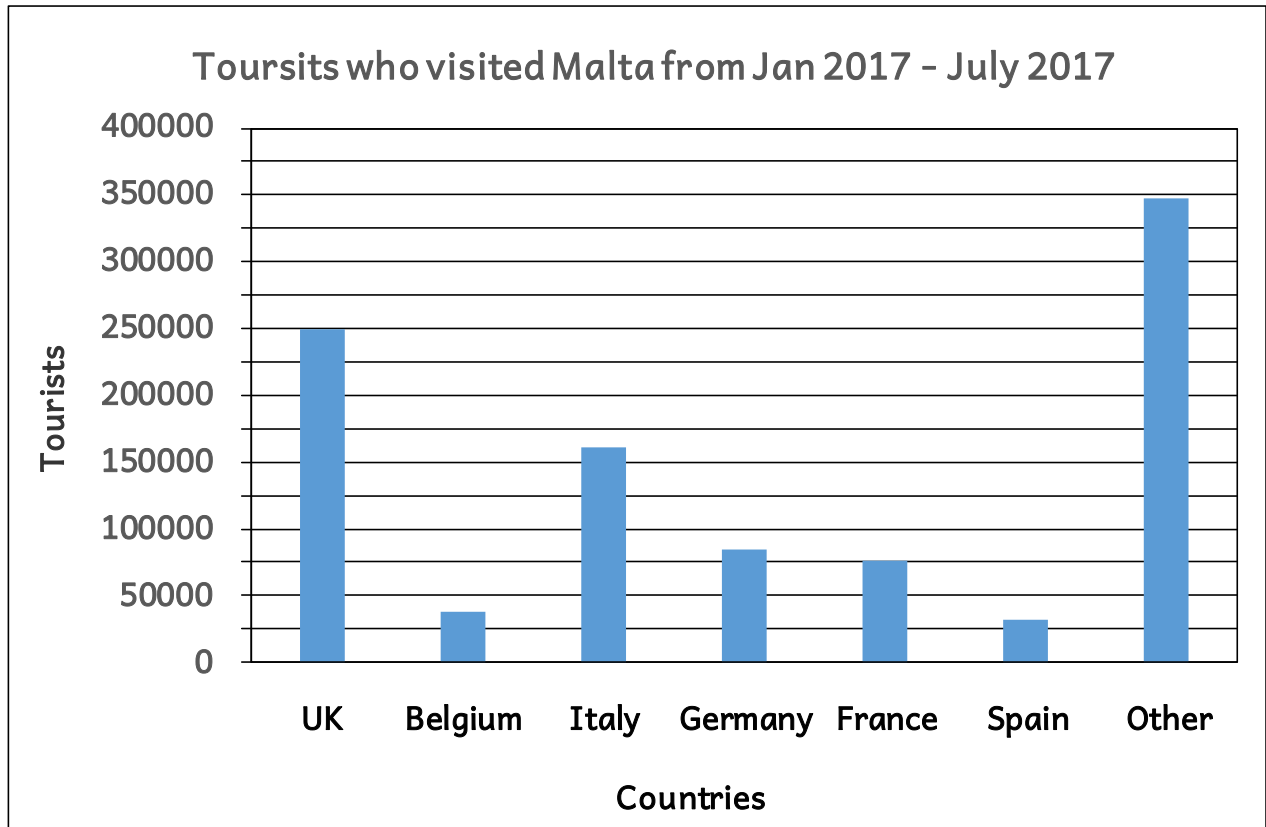
Which **direction** is Vicky now facing?



- a. North
- b. South
- c. East
- d. West

18. Look carefully at the bar chart below.

Tick the **best estimate** for the **total number of tourists** who visited Malta from January 2017 to July 2017.



Source: <https://nso.gov.mt>

- a. 280 000 tourists
- b. 750 000 tourists
- c. 990 000 tourists
- d. 1 500 000 tourists

19. Greta goes shopping, pays the bill and gets **€2•50 as change**.
She checks the change and notices that for every coin, she has got another coin of the same value.
What is the **coin with the smallest value** in **Greta's change**?

a. 2 cent

b. 5 cent

c. 10 cent

d. 50 cent

Section B

Show your working.

Each question carries **3 points**.

20. There is a special offer on **1.5 litre water bottles** at the supermarket.

Special Offer

Buy **6 water bottles** and get them at **€0.85 each** instead of **€1 each**.

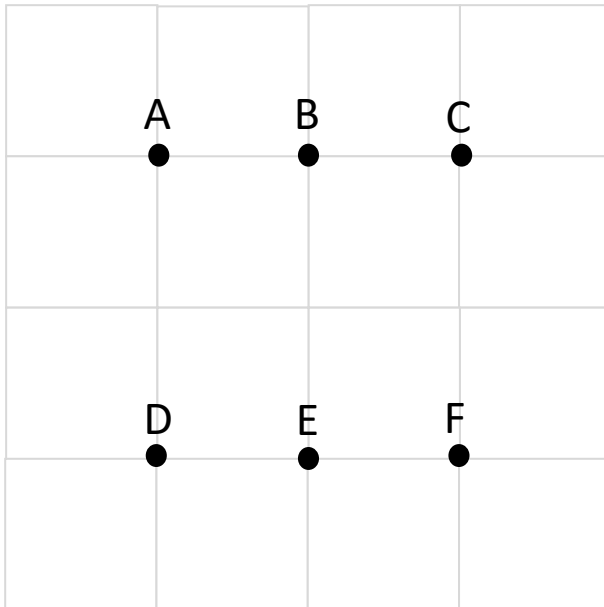
What is the maximum (largest) number of such water bottles that I can buy with **€20**?

water bottles

21. Silvana writes **all the numbers from 0 to 100**.
How many times does she write the **digit 7**?

22. How many **triangles** are there that have **three of the following six points as their vertices**?

Hint: Triangle ADE, Triangle ADF are two of the triangles.



triangles

23. Team A and Team B took part in a quiz.

Each team was awarded **2 marks for every correct answer.**

Teams had **1 mark deducted from their points for each answer that was not correct.**

Team B had **6 incorrect answers** and won the quiz with a **total of 42 points.**

How many questions were asked?

questions

End of test