

SUBJECT TEST IN MATHEMATICS

Year 9 – Part A

Name _____

School _____ Class _____

Date of Birth Year _____ Month _____ Day _____

Girl ☐ Boy ☐

Answer only required.

To save time use mental arithmetic as much as possible.

1. Which of the following numbers is the lowest? Circle your answer.

2 030

3 200

2 300

3 020

2 003

3 002

2. A television programme starts at 19.35
and lasts for 1 h and 50 mins.

What time does the programme finish?

Answer: _____

3. $37 + 8.5 =$

Answer: _____

4. $4 + 16/2 =$

Answer: _____

5. Which of the following numbers is the highest? Circle your answer.

1.01

1.002

1.101

1.11

1.02

6. You have the number 435 287.

How much will the number

increase if you replace the figure 5 with a 9?

Answer: _____

7. Which percentage is equal to $\frac{1}{5}$? Circle your answer.

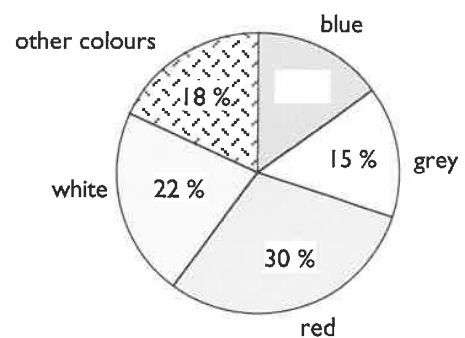
2 % 20 % 0.2 % 5 % 1.5 %

8. You are going to calculate 96 % of 9 400.
Which result will you get? Circle your answer.

much greater than 9 400 slightly less than 9 400

slightly greater than 9 400 much less than 9 400

9. Karin and Alfred have made a study of the most common car colours. The result is shown in the diagram. What percentage of cars were blue?



Answer: _____ %

10.

Buy 4 pay for 3!

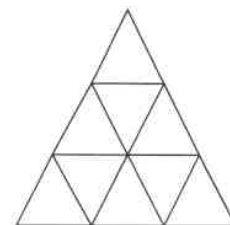
What is the percentage discount?

Answer: _____ %

11. $3.6 \cdot 0.5 =$

Answer: _____

12. Shade *two thirds* of the figure.



13. Study the pattern and fill in the missing number.

3 5 8 12 _____ 23 30

14. Yeast is packed in 50 g packets.
How many packets will you get
out of one kilo yeast?

Answer: _____ pkts

15. Write a number between $\frac{1}{3}$ and $\frac{1}{2}$.

Answer: _____

16. In a local authority school the cost of a pupil is 51 235 kr for one year.
What would be the approximate total cost for one year of the authority's
385 ninth graders? Circle your answer.

0.2 million

2 million

20 million

200 million

2 billion

20 billion

17. Which of the following calculations will give you the highest number?
Circle your answer.

$0.98 \cdot 300$

$300/0.98$

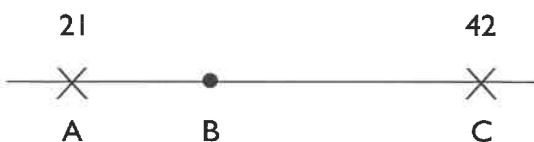
$300/0.94$

$300 \cdot 0.94$

18. A pile of 25 exercise books is 15 cm thick.
How thick is *one* exercise book?

Answer: _____ m m

19. B is a point situated $\frac{1}{3}$ of the way between A and C.
What number is equal to point B?



Answer: _____

20. Macaroni are to be packed in bags, each bag containing 0.75 kg.
Which of the following calculations should be used to calculate how many
bags that are needed for 6 kg of macaroni? Circle your answer.

$6 \cdot 0.75$

$6/0.75$

$0.75/6$

$0.75 \cdot 6$

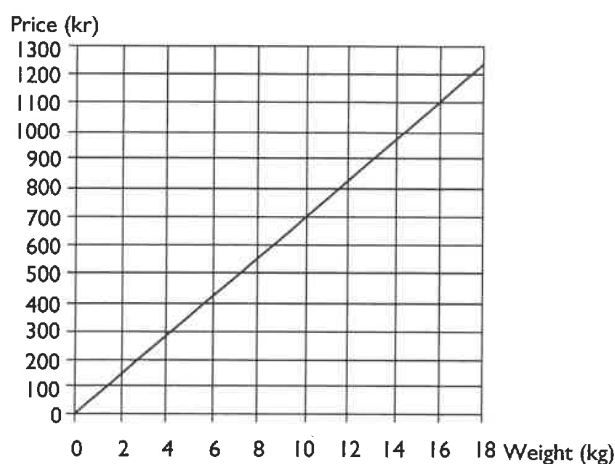
$6 - 0.75$

$6 + 0.75$

21. Solve the equation $2x - 3 = 9$

Answer: $x =$ _____

22. The graph shows how much a certain type cheese costs in relation to the weight of the cheese.
What is the price of the cheese per kg?



Answer: _____ kr

23. Fill in the square with a number that makes the calculation correct.

a) $6 + 6 \cdot \square = 36$

b) $\square + \square = -1$

c) $5 - \square = 7$

24. How can you write an expression that is:

a) three times as great as a

Answer: _____

b) 10 less than a

Answer: _____

25. The price of apples is proportional to the weight.
What are the values of a and b ?

Weight (kg)	3	5	b
Price (kr)	27	a	72

Answer: $a =$ _____

Answer: $b =$ _____

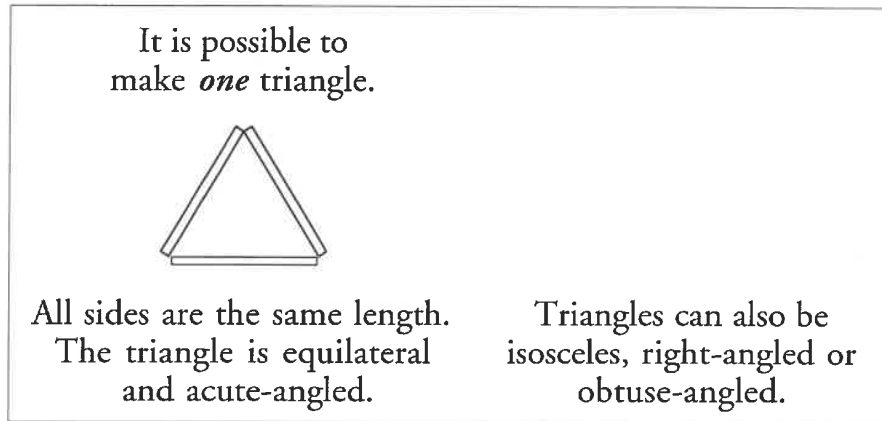
26. What is the value of a if:
 $4a + 100 = 100$

Answer: $a =$ _____

Triangles

With the help of the sticks provided you are going to make triangles on a table. The sticks are all of the same length and should be placed end to end without crossing each other.

Here is an example using three sticks:



- a) Try making *one* triangle using four sticks.
Discuss why it is not possible.
Write up your group's explanation in the answer sheet.
- b) Use five sticks. Make *one* triangle using all five sticks. Also, try to make different shaped triangles. All five sticks have to be used for each triangle. Fill in the answer sheet with your results.
- c) Now do the same thing using six and then seven sticks.

Instructions

Work together (about 25 mins)

Read carefully through the assignment.

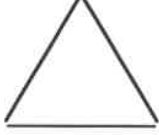
Then go through the work and discuss it together to make sure you have all understood it in the same way.

Solve the problem and explain for each other your reasoning. Try to explain in such a way that your team understands how you are thinking. Listen and pose questions to understand how other members of your team are thinking. Give a summary of all your answers in the answer sheet.

Individual work (about 30 mins)

After this exercise and discussion you will be expected to make a similar report on your own.

Answer sheet for “Triangles”

<i>Number of sticks</i>	<i>Picture or explanation</i>	<i>Description</i>
3		equilateral acute-angled
4		
5		
6		
7		

Name: _____

Triangles

Triangles using twelve sticks

1. Make a triangle using all twelve sticks.
Make a drawing of the triangle and explain what kind of triangle you have made.

Now try to make other kinds of triangles. All twelve sticks should be used in each triangle made.

Try to make as many triangles as possible.

Make a drawing of each triangle and describe what kind of triangle it is.

Triangles when two sides have a given length

2. In a triangle, one side is 8.0 cm and another side is 6.0 cm.
Study how the length of the third side can vary.

When assessing your work the teacher will take into account:

- how well you have reported your work
- how correctly and clearly you have drawn your figures
- what conclusions you have made.