11 Plus Guru
Online Education Experts

Mathematics

Standard Format

For Sutton Schools

Practice Paper-3

Read the following instructions carefully:

1. You are not allowed to open or turn over this test paper unless told.

2. This paper is a standard format paper containing different types of questions.

3. You are NOT allowed to use calculators.

4. The answers should be written in the question paper itself in the space provided.

5. Work out the questions carefully and quickly. If you are unable to do a question, go on to the next question, do not waste time on it.

6. The test contains **24** questions and you will have **45** minutes to finish the test.

7. The maximum marks awarded for this paper is 100. Marks for each question are shown in brackets ( ).

1) Work out $20025 \div 89 =$

_____ (3 marks)

_____

2) Work out $12 \, \text{km} - 3 \, \text{miles} \approx$ km

_____ (4 marks)

_____

3) Fill in the missing value.

$2.5 \, \text{m}^2 =$ _____ cm^2

_____ (3 marks)

_____

4) Express $\frac{1}{2.5}$ as a percentage.

_____ (3 marks)

_____

5) Work out $5 - 3 + 14 \div 7$

_____ (3 marks)

_____

6) What is the HCF of 42 and 36?

_____ (3 marks)

_____

7)   Paul purchased a laptop for £1000 and sold it to his friend for £800.

    a.   How much loss did he make?

                                                     _____ (3 marks)

    b.   What was the loss percentage?

                                                     _____ (3 marks)

8)   What must be added to the number 991 to make it exactly divisible by 18?

                                                   _____ (3 marks)

9)   Fill in the boxes below with whole numbers.

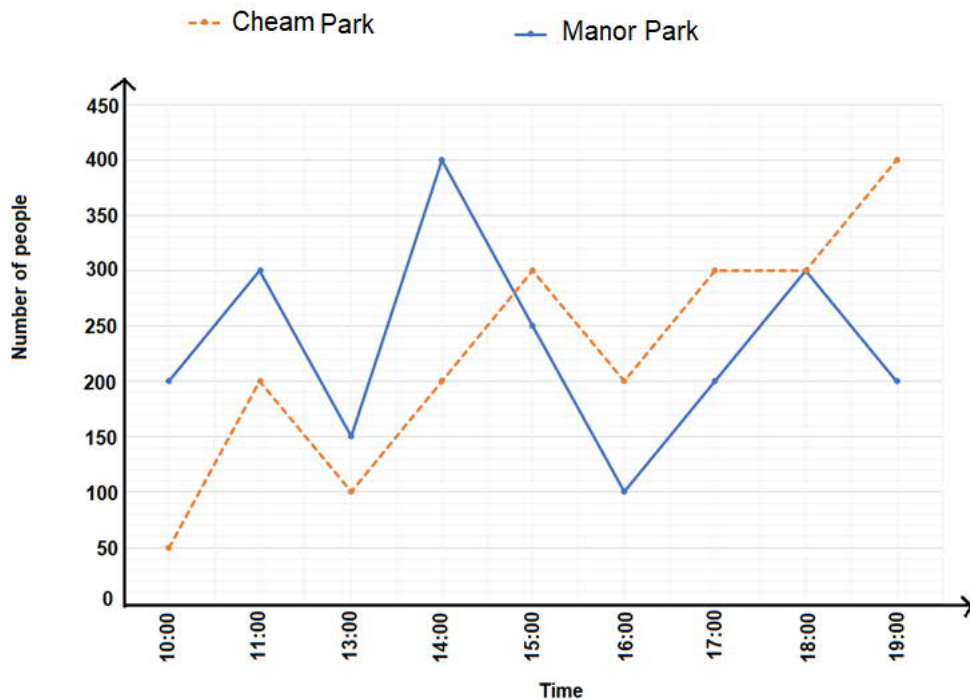   a. $2 \times 2 \times 2 \times 4^4 = 2^2 \times 2^3 \times \boxed{}$

                                                     _____ (2 marks)

    b. $4^{\boxed{}} = 64$

                                                     _____ (2 marks)

    c. $9^3 = 3 \times \boxed{}$

                                                     _____ (2 marks)

10) The graph below shows the number of people in Cheam Park and Manor Park on a bank holiday.

Find the range of number of people in Cheam park.

_____ (4 marks)

**11)** Vertex A of triangle ABC is located at (0,-8).

If this triangle is translated 6 units to the right and 3 units down, what is the new co-ordinates of vertex A?

_____ (3 marks)

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12) Alex can complete a project in 60 days. If Alex and Rob work together, they will complete the project in 20 days. How long will Rob take to complete the project?

_____ (4 marks)

13) Look at the figure below in which 6 identical squares are joined together to form a rectangle.
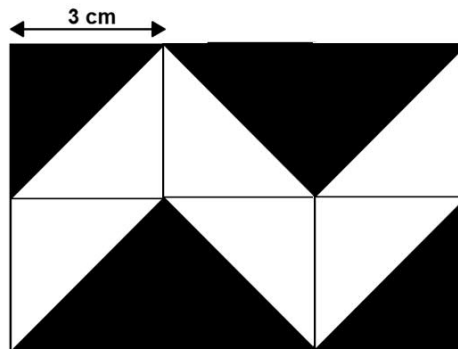
(Diagram not to scale)

Find the area of the unshaded region.

_____ (4 marks)

14) The surface area of a cube is twice its volume.

What is the volume of this cube?

_____ (4 marks)

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15) What is the value of $\frac{4m+13m-m}{2m} + 4$?

_____ (4 marks)

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16) Look at the cone below.

← Side view

Draw the view from the side shown above.

_____ (4 marks)

17)   Sarah learned $2a$ words in the morning. She learned $60 - 3a$ words in the afternoon. Altogether, she learned 43 words that day. How many words did she learn in the morning?
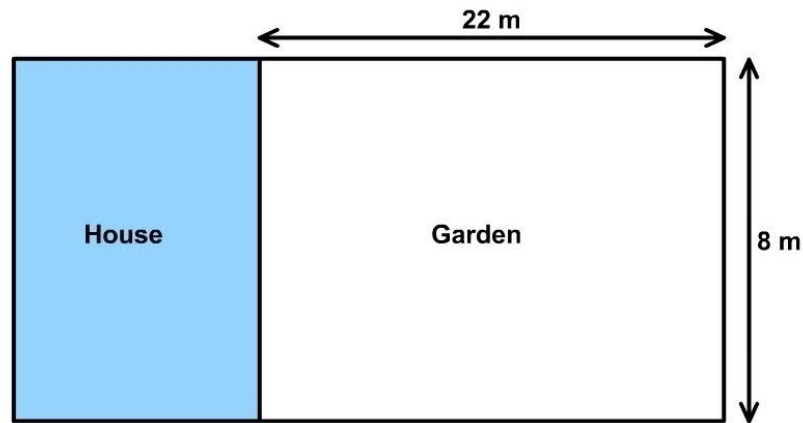
_____ (4 marks)

18)   Simplify $5(7x + 3) - 4(2x - 5)$

_____ (4 marks)

19)   A 2D Shape has four sides and it's a regular polygon. How many lines of symmetry does this 2D shape have?

_____ (4 marks)

20) Anne decides to construct a fence around the perimeter of her back garden, which measures 8 metres by 22 metres.

(Diagram not to scale)

a. How many posts does she need if they will be spaced 2 m apart?

_____ (2 marks)

b. If each fence panel is 2 metres wide, how many fence panels does she need?

_____ (2 marks)

c. Anne hires two workers to build the fence. Each worker works for 8 hours per day for 2 days. The hourly rate for each worker is £15.80. In total, how much money does Anne pay the workers?

_____ (2 marks)

21) Look at the shapes and letters below. Draw the mirror images of the shapes and letters about the dotted lines.
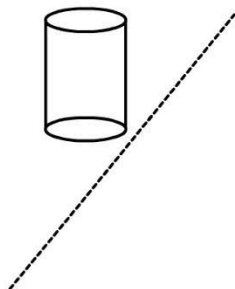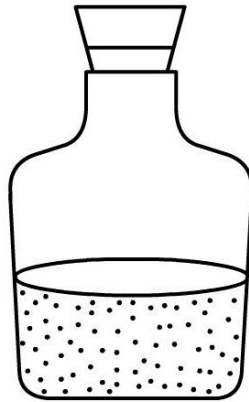
a.
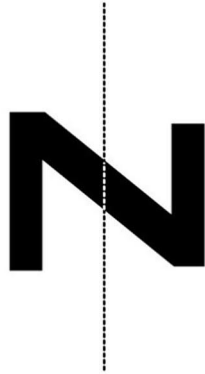
_____ (2 marks)

b.
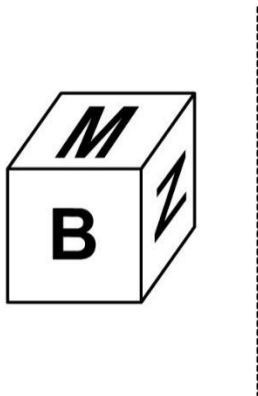
_____ (2 marks)

c.

_____ (2 marks)

22) In a science lab, a few bacteria are placed in a jar under favourable conditions. The bacteria population doubles itself every 6 minutes.

a. If there are 2.4 million bacteria in the bottle after 42 minutes, how many bacteria will be in the jar at the end of one hour?
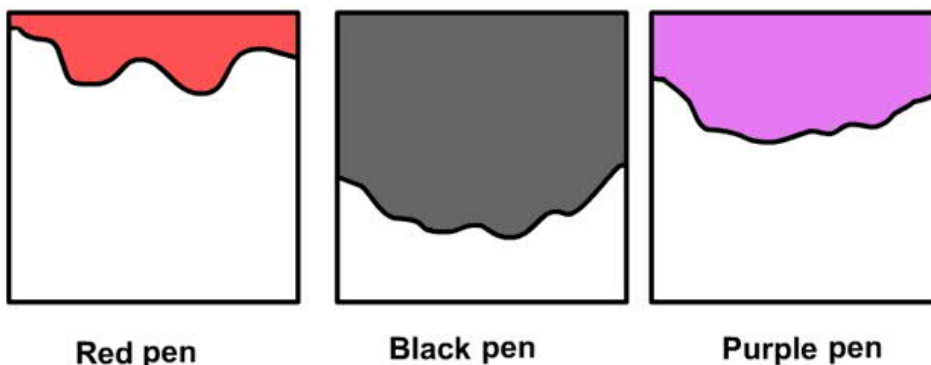
_____ (3 marks)

b. Another type of bacteria is put in another jar and doubles itself every minute. It was found that half of the jar was filled with bacteria within 35 minutes. How many more minute(s) will it take to completely fill the jar with bacteria?
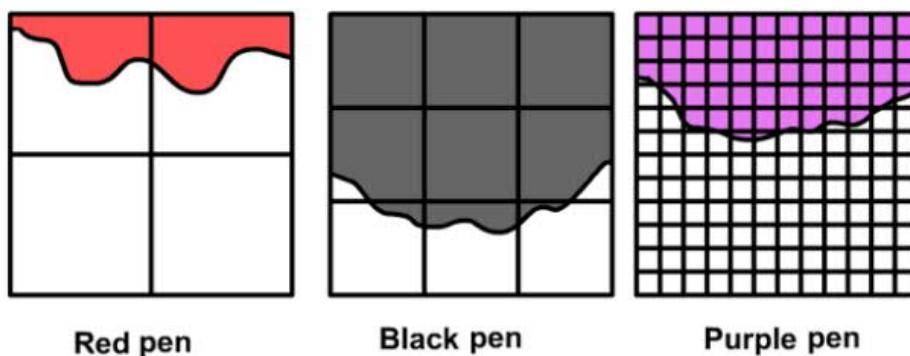
_____ (2 marks)

23) Phineas is using three identical square papers to see how various colours of ink from different pens will spread onto paper. The area of each paper is 576 cm².

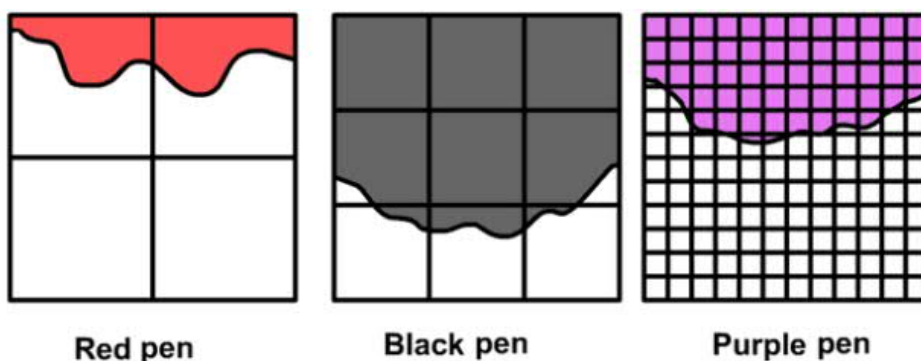He gets the following results for the three different ink colours:

Red pen   Black pen   Purple pen

He draws smaller identical squares on each of the papers to calculate the area of the ink spread, as shown below:

Red pen   Black pen   Purple pen

a.   Find the approximate area of the red ink, black ink and purple ink spreads.

Red pen   Black pen   Purple pen

_____ (3 marks)

b.   Which grid would give the most accurate area? Why?

_____ (2 marks)

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24) Madison counted the number of parrots, tigers, snakes and 8-legged spiders at the zoo.

She counted the legs of these animals and found 56 legs in total.

There were three snakes. The ratio between number of spiders, tigers and parrots is 2 : 1 : 4.

a.   Find the number of tigers she counted.

_____ (4 marks)

b.   The zoo decides to add 2 parrots, 3 spiders and 5 snakes. How many legs does Madison count now?

_____ (1 mark)