FILL IN ALL INFORMATION REQUESTED CLEARLY AND LEGIBLY.

TEST CODE

SUBJECT  MATHEMATICS

Please place your label here.

READ THE FOLLOWING DIRECTIONS CAREFULLY

1. This test is divided into THREE sections.
2. Make sure you read the instructions before you start to work on any section.
3. Write all your answers in this test booklet.
4. DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.

WRITE THE NAME OF YOUR SCHOOL BELOW:

DATE OF BIRTH

Day  Month  Year

SEX  MALE  FEMALE

WRITE YOUR FULL NAME BELOW:

DO NOT WRITE IN THIS SPACE

FOLDER NUMBER

DO NOT WRITE IN THIS SPACE

FOLDER NUMBER
Instructions for the Mathematics Test

You are NOT allowed to use calculators.

This test has THREE sections with a total of 45 questions.

SECTION I has 20 questions (Nos. 1-20).

SECTION II has 20 questions (Nos. 21-40).

SECTION III has 5 questions (Nos. 41-45).

You have 75 minutes for this test.

Answer ALL questions.

Read EACH question CAREFULLY before answering it.

Show ALL working.

Marks will be given for correct steps taken.

Work carefully but DO NOT spend too much time on any one question.

DO NOT BEGIN UNTIL YOU ARE TOLD TO DO SO.
Section I

1. Write the value of the underlined digit in the numeral.

   \[124,39\]

   Answer: __________________________________________

2. Round \(2845\) to the nearest thousand.

   Answer: __________________________________________

3. \(194 - 86 = 170 + \square - 86\)

   Answer: __________________________________________

4. What is the numeral at position A on the number line?

   Answer: __________________________________________
5. Calculate 25% of 160.

Answer: __________________________________________

6. What fraction is shaded?

\[
\begin{array}{|c|c|}
\hline
\frac{3}{5} & \frac{3}{10} \\
\hline
\end{array}
\]

Answer: __________________________________________

7. Write the total value of the bills and coins.

Answer: __________________________________________
8. \[ \begin{array}{c}
4 & 0 & 6 \\
\times & 2 & 7 \\
\end{array} \]

Answer: _____________________________

9. A set of five coins sums to one dollar. Draw the missing coin.

10. Write the missing digit in the box provided.

\[ \begin{array}{c}
2 & 0 & 6 & 9 \\
+ & 4 & \square & 8 \\
\hline \\
2 & 5 & 2 & 7 \\
\end{array} \]
11. State the length of the bolded line on the grid.

Answer: __________________________________________

12. How many more 250 g blocks are needed to balance the scale?

Answer: __________________________________________
13. Alan celebrated his birthday on the 28th of May. Sachin celebrated his birthday 16 days before Alan. When is Sachin’s birthday?

![MAY 2018 Calendar]

Answer: ___________________________________________________________________

14. Express the amount of juice in millilitres.

![Juice Bottle]

Answer: ___________________________ millilitres
15. The diagram shows a square based pyramid.

![Diagram of a square based pyramid]

What is the sum of the number of faces and vertices?

Answer: __________________________________________

16. Which of the following shapes is a rhombus?

![Shapes A, B, and C with grid]

Answer: __________________________________________
17. How many right angles are there altogether on the faces of a cube?

Answer: ____________________________________________

18. The tally chart shows the favourite colours of 33 students in a class.

Insert the missing information to complete the tally chart.

<table>
<thead>
<tr>
<th>Drink</th>
<th>Tally</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red</td>
<td></td>
<td>7</td>
</tr>
<tr>
<td>Blue</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Yellow</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Green</td>
<td></td>
<td>8</td>
</tr>
</tbody>
</table>
19. The pictograph shows the types of vehicles in a carpark.

<table>
<thead>
<tr>
<th>Types of Vehicles in a Carpark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Car</td>
</tr>
<tr>
<td>Maxi-Taxi</td>
</tr>
<tr>
<td>Truck</td>
</tr>
<tr>
<td>Van</td>
</tr>
<tr>
<td>SUV</td>
</tr>
</tbody>
</table>

What is the modal type of vehicle?

Answer: __________________________

20. The table shows the number of drawings created by students in an Art class.

<table>
<thead>
<tr>
<th>Name of Student</th>
<th>Mary</th>
<th>Sunil</th>
<th>Jada</th>
<th>Henry</th>
<th>Kimani</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Drawings</td>
<td>8</td>
<td>4</td>
<td>12</td>
<td>6</td>
<td>10</td>
</tr>
</tbody>
</table>

Which student created the mean number of drawings?

Answer: __________________________
Section II

21. Complete the pattern in the spaces provided. (2 marks)

\[\sqrt{169} \quad \sqrt{121} \quad \sqrt{81} \quad \_ \quad \_ \quad \sqrt{9}\]

22. Asha and Rhoda bought 125 roses for a flower show.
Rhoda bought 4 times as many roses as Asha.
How many roses did Rhoda buy? (2 marks)

Answer: _________________________________

23. John had 180 marbles. He gave Sachin \(33\frac{1}{3}\%\) of his marbles.
Calculate how many marbles John has remaining. (2 marks)

Answer: _________________________________
24. St. George’s Prep School went on a field trip. Both teachers and students paid $60 each. If the school paid $2 160 for transport, how many 12 seater maxi-taxis were hired? (2 marks)

Answer: _________________________________

25. Joseph bought 5 bicycles at a total cost of $3 125.00. He later sold the 5 bicycles to make a profit of 100%. How much was the selling price of the 5 bicycles? (2 marks)

Answer: _________________________________
26. Sonja discovered \( \frac{2}{5} \) of the pens she bought were not working.

She also noticed \( \frac{1}{4} \) of the working pens were red.

If 36 of the working pens were red, how many pens did Sonja buy?  

\( \text{(3 marks)} \)

Answer: __________________________________________

27. A roll of string was used to make kites.

Inshan used \( \frac{1}{4} \), Mark used \( \frac{3}{8} \) and Lisa used \( \frac{7}{24} \) of the roll of string.

Calculate the difference in length between the shortest and longest pieces of string used.  

\( \text{(3 marks)} \)

Answer: __________________________________________
28. Kelly is 8 years old.
       Marcy is 10 years older than Kelly and 4 years older than Dan.
       Dan is twice as old as Patrick.
       How old is Patrick?

   (3 marks)

   Answer: ____________________________________________

29. Darren and Ann bought the school supplies shown.

   Darren’s Supplies
   [Illustration of pencils and rulers]
   Total cost - $19.00

   Ann’s Supplies
   [Illustration of pencils and rulers]
   Total cost - $21.00

   What is the total cost of 10 pencils and 10 rulers?

   (3 marks)

   Answer: ____________________________________________
30. Alana and Jabari both multiplied some numbers by 5.
   Alana said, “You always get a product of 5 or more.”
   Jabari responded, “No, you can also get a product that is smaller than 5.”
   Who is correct? Explain your answer giving examples.

   Answer:
   __________________________________________________________________________
   __________________________________________________________________________
   __________________________________________________________________________
   __________________________________________________________________________
   __________________________________________________________________________
   __________________________________________________________________________

31. A movie ended at the time shown on the digital clock.

   If the movie lasted for one hour and fifty-five minutes, at what time did the movie start
   given that the clock is 10 minutes slow?

   Answer: __________________________________________
32. Tariq has a 4-litre bottle of sorrel.
   He drinks 250 millilitres of sorrel every day.
   How many days does he take to finish drinking all the sorrel in the bottle? (2 marks)

Answer: ______________________________________

33. Sally bought three blocks of cheese.
   Block A has a mass of 0.94 kilograms.
   Block B has a mass of 160 grams less than Block A.
   Block C has a mass of 700 grams more than Block B.
   What is the total mass of the three blocks of cheese to the nearest kilogram? (3 marks)

Answer: ______________________________________ kilograms
34. Mr. Ali wants to tile his office floor. The area of the floor is 90 000cm\(^2\).

Which size tile should be used so that it is cheaper to tile the area of the entire floor? Show all working.

(3 marks)

Answer:

________________________________________________________________________

________________________________________________________________________
35. Triangular-shaped tiles of equal sizes were used to cover the hexagon. One tile is shown.

![Hexagon with one triangular tile](image)

How many tiles were used altogether?

(2 marks)

Answer: ________________________________

36. Draw the 4th and 6th elements to complete the pattern.

(2 marks)
37. State which two triangles are similar, giving your reasons.

Answer:
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

38. The pictograph represents the number of medals won by two runners.

<table>
<thead>
<tr>
<th>Runner</th>
<th>Number of Medals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ricardo</td>
<td>★ ★ ★ ★ ★</td>
</tr>
<tr>
<td>Jeremy</td>
<td>★ ★ ★ ★ ▲</td>
</tr>
</tbody>
</table>

Complete the table, using the information from the pictograph.

<table>
<thead>
<tr>
<th>Runner</th>
<th>Number of Medals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ricardo</td>
<td>30</td>
</tr>
<tr>
<td>Jeremy</td>
<td></td>
</tr>
</tbody>
</table>
39. The bar graph shows the ice-cream sales at the cafeteria during the week. The flavours of the ice-cream are missing from the graph. Chocolate is liked the most. Vanilla is liked the least. Coconut is preferred more than strawberry.

How many strawberry flavoured ice-cream were sold? (3 marks)

Answer: _________________________________

40. The table shows the toys sold at Helen’s store in one month.

<table>
<thead>
<tr>
<th>Toy</th>
<th>Dolls</th>
<th>Cars</th>
<th>Video Games</th>
<th>Board Games</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number sold</td>
<td>24</td>
<td>16</td>
<td>32</td>
<td>20</td>
</tr>
</tbody>
</table>

If her store sold 4 more Cars, would there be a change in the modal toy for the month? Explain your answer. (3 marks)

Answer:

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
41. The table below shows the number of books borrowed by students from the school library in a week.

<table>
<thead>
<tr>
<th>Number of Books</th>
<th>Number of Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>?</td>
</tr>
<tr>
<td>1</td>
<td>34</td>
</tr>
<tr>
<td>2</td>
<td>36</td>
</tr>
<tr>
<td>3</td>
<td>63</td>
</tr>
<tr>
<td>4 or more</td>
<td>81</td>
</tr>
</tbody>
</table>

Three-fifths of the students borrowed 3 books or more. How many students did not borrow any book? (4 marks)

Answer: ________________________________
42. Gary works 40 hours from Monday to Friday and is paid $60.00 per hour. He works twice the number of hours on Saturday than on Sunday. He is paid time and a half on both days. How many hours does Gary work on a Saturday if he earns $3 480.00 in one week?

(4 marks)

Answer: ________________________________
43. The perimeters of the rectangle and square below are the same. (not drawn to scale)
The length of the rectangle is twice its width.

What is the difference between the areas of the square and the rectangle? 

(4 marks)

Answer: __________________________
44. The grid shows two complete shapes A and B, and an incomplete shape C.

a) Draw the line of symmetry that is common to shapes A and B.

b) Shapes A and C also have a common line of symmetry. Draw the line of symmetry and complete the shape C.

(4 marks)
45. The bar graph shows the number of runs scored by a school in a cricket competition with four innings.

The mean number of runs scored before the 4th inning was 5 less than the mean number of runs scored after the 4th inning. How many runs were scored in the 4th inning?

(4 marks)

Answer: _____________________________________________
END OF TEST

IF YOU FINISH BEFORE TIME IS CALLED, YOU MAY CHECK YOUR WORK
BEFORE HANDING IN YOUR PAPER