Education and Manpower Bureau  
Territory-wide System Assessment 2007  
Primary 6  
Mathematics

**Instructions:**

1. There are 42 questions in this test.
2. Answer all questions.
3. Time allowed is 50 minutes.
4. Use of calculators is not allowed.
5. Write your answers in this Question-Answer Booklet.
   (a) Multiple choice questions:
      Mark your answers by putting a “✓” in the “〇”, e.g.:
      \[
      2 + 3 = \\
      \bigcirc A. 4 \quad \bigcirc B. 5 \quad \bigcirc C. 6 \quad \bigcirc D. 7
      \]
   (b) Questions in which you are asked to “Show your working”:
      Write your mathematical expressions/equations, answers and statements/conclusions in the space provided. There is NO need to show your rough work.
   (c) Other types of questions:
      Answer as required in the space provided.
6. Do your rough work on the rough work sheet provided.
7. Write your School Code, Class and Class Number in the boxes below.

<table>
<thead>
<tr>
<th>School Code</th>
<th>Class</th>
<th>Class No.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

Write one capital letter in this box
此格只許填寫一個大楷英文字母

2007-TSA-MATH-6ME2-1
(a) Write in words the number shown on the above abacus.
Answer: __________________________

(b) In the number shown on the above abacus, the digit in the thousands place is _____, and the value of this digit is ______.

2. \(53 \times 409 = \) ______

3. \(3 \frac{1}{9} - 1 \frac{2}{9} + 2 \frac{4}{9} = \) ______

4. \(10 \frac{1}{2} \div 2 \frac{2}{13} = \) ______

5. \(3 \frac{5}{6} + 2 \frac{1}{10} \times 5 = \) ______
6. \( 3.6 \times (12 - 4.9) = \) ________

7. Which of the following expressions is most suitable for estimating the value of \( 2.1 + \frac{5}{9} \div \frac{1}{3} \)?
   - A. \( 2 + 5 \div 3 \)
   - B. \( 2 + 5 \times 3 \)
   - C. \( 2 + 6 \div 3 \)
   - D. \( 2 + 6 \times 3 \)

8. List all the factors of 38.
   Answer: ______________________

9. Before visiting his uncle at the hotel, Tom has to find out his uncle’s room number. His uncle says, “My room number is one of the following numbers and it is a common multiple of 27 and 36.” Circle the room number of Tom’s uncle.

   - 9
   - 63
   - 81
   - 126
   - 243
   - 324

10. Find any two numbers that have 28 as their least common multiple (L.C.M.).
    Answer: The two numbers are _______ and _______.

2007-TSA-MATH-6ME2-3
11. Fill in each of the following boxes with the correct number.

\[
\begin{align*}
12 & = \quad \square \\
3 & = \quad \square \\
& = \quad \square \\
& = \quad 30
\end{align*}
\]

12. The above diagram shows three large squares. If each large square represents 1, use a decimal to show the shaded part of the above diagram.

Answer: _______

13. Change \(3 \frac{7}{15}\) into a decimal and correct it to the nearest hundredths.

Answer: _______

14. The diagram below shows a tangram. What percentage of the whole diagram is shaded?

\[
\begin{align*}
\bigcirc \ A. \ 12.5 \% & \quad \bigcirc \ B. \ 14.3 \% \\
\bigcirc \ C. \ 16.7 \% & \quad \bigcirc \ D. \ 25 \%
\end{align*}
\]
15. Mum divides $536 equally among John, Kitty, Peter and I. I use half of my share to buy a packet of stationery. The price of the stationery is $ \underline{\hspace{1cm}}$.

16. A race track is $4\frac{3}{8}$ km long. How far has the sports car travelled after going round the track $14\frac{4}{5}$ times?

Answer: The sports car has travelled \underline{\hspace{1cm}} km.

17. Mary and her brother go to school 5 days a week by bus. They spend altogether $110.50 on bus fare each week. Mary spends $12.60 on bus fare each day, so her brother spends $ \underline{\hspace{1cm}}$ daily on his bus fare.

18. Dad made a long distance call this morning to his client in Beijing. The phone records showing the length of the call are shown below.

Long distance calls are charged $1.65 per minute. How much does Dad need to pay for the call to Beijing?

Answer: Dad needs to pay \underline{\hspace{1cm}} dollars and \underline{\hspace{1cm}} cents.
19. An iron rod is originally 14.07 cm long. After the rod is heated up, its length increases by 0.65 cm. The length of the iron rod after it is heated up is _______ cm.

20. Mum bought an air-conditioner for $3400 and paid 5% more for delivery. How much did Mum pay for the air-conditioner altogether? (Show your working)

21. Ted and 7 of his classmates have a barbecue. They buy only 6 packs of barbecue food. If each pack is sold for $48, how much does each person pay, on average? (Show your working)
22. *

*circle the answer) is lighter.

It is ______ g lighter than the other fruit.

23. Mum is baking a cake. Some of the ingredients needed to bake a cake are shown below.

According to the above diagram, to bake the cake mum needs:

(a) ____________ of milk (give the answer with a unit)

(b) ____________ of flour (give the answer with a unit)
24. ABCD is a rectangle.

(a) Use a ruler to measure the length and the width of the rectangle.

Answer: \( AB = \underline{\phantom{10}} \) cm and \( BC = \underline{\phantom{10}} \) cm.

(b) The perimeter of the rectangle ABCD is \( \underline{\phantom{100}} \) cm.

25. In the diagram on the right, a circle is drawn inside a square. O is the centre of the circle.

(a) Which of the straight lines is a diameter?

- \( \bigcirc \) A. PQ
- \( \bigcirc \) B. OS
- \( \bigcirc \) C. OR
- \( \bigcirc \) D. RT

(b) Which of the straight lines is equal in length to the side of the square?

- \( \bigcirc \) A. RT
- \( \bigcirc \) B. OR
- \( \bigcirc \) C. OS
- \( \bigcirc \) D. PQ

(c) Is the perimeter of the square longer than the circumference of the circle? Why?

Answer: * Yes / No (*circle the answer). This is because ____________________________ .
26. The circumference of a circle is 110 cm, find its radius. (Take $\pi$ as $\frac{22}{7}$.)
Answer: Its radius is _______ cm.

27. A piece of farmland in the shape of a square has sides that measure 17 m each. The area of the farmland is _______ m$^2$.

28. The area of the trapezium shown on the right is _______ cm$^2$.

29. On the left of the above diagram is a cube. It is cut into two identical triangular prisms. The volume of each triangular prism is

- A. 200 cm$^3$
- B. 400 cm$^3$
- C. 4000 cm$^3$
- D. 8000 cm$^3$
30. 1800 cm$^3$ of water is poured into the beaker below. Where should the water level be? **Draw the water level on the beaker.**

![Beaker diagram]

31. Which of the following units is most suitable for measuring the flying speed of a butterfly?

- [ ] A. m
- [ ] B. s/m
- [ ] C. m/s
- [ ] D. m s

32. A van travelled with an average speed of 80 km/h. How long did it take for the van to travel 140 km?

Answer: It took _______ hours.

33. A 3-D shape with seven faces may be

a. __________________________ or

b. __________________________
34. Two types of quadrilaterals have the following properties: two pairs of parallel opposite sides and four equal sides.

(a) Name these two types of quadrilaterals.
   (i) ________________  (ii) ________________

(b) Draw these two types of quadrilaterals on the following grids.
   (i) 
   (ii) 

35. My sister originally has $Q$ candies. After buying 20 more, she divides all her candies into 3 equal shares. How many candies are there in each share?

   O A. $\frac{20Q}{3}$  O B. $\frac{Q + 20}{3}$
   O C. $\frac{Q}{3} + 20$  O D. $\frac{Q - 20}{3}$

36. Find the average of the following 4 numbers: 162, 95, 118 and 109.
   Answer: The average is ________.
37. Study the following 2-D shapes. Write the letter(s) for the answer.

(a) Right-angled triangle(s): ________________

(b) Parallelogram(s): ________________

(c) Trapezium(s): ________________

(d) Pentagon(s): ________________

38. Solve the equation:

\[ \frac{a}{3} = 15 \]

\[ a = \]
(a) The Fast Food Shop is to the ________ of the Pier,  
    (direction)  
and the Cinema is to the ________ of the Clinic.  
    (direction)

(b) Fanny starts from the Car Park and goes ________,  
    (direction)  
passes the Fast Food Shop, and then goes ________  
    (direction)  
to reach the Clinic.

(c) Mandy wants to go from the Church to the Park.  
She first goes ________, passes the  
    (direction)  
    ________, and then goes ________ to  
    (direction)  
reach the Park.
40. The instructor of an educational camp arranged five activities for students. Afterwards, all the students voted, by one-student-one-vote, for their most favourite activity. The results of the vote are shown below.

**Students’ Most Favourite Activity**

Each ❤️ represents 10 students

<table>
<thead>
<tr>
<th>Activity</th>
<th>Heart Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group Competition</td>
<td>200</td>
</tr>
<tr>
<td>Ecological Trip</td>
<td>180</td>
</tr>
<tr>
<td>Rock Climbing</td>
<td>160</td>
</tr>
<tr>
<td>Historical Adventure</td>
<td>140</td>
</tr>
<tr>
<td>Wild Discovery</td>
<td>120</td>
</tr>
</tbody>
</table>

(a) The most popular activity was _______________, and the number of students who voted for it was ______.

(b) The number of students who favoured Wild Discovery is ______ times that who favoured Group Competition.

(c) The total number of students joining the educational camp was ______.

(d) What fraction of the total number of students favoured Historical Adventure?

**Answer:** The fraction is ______.
41. The following bar chart shows Candy’s results in the final examination.

![Candy's Results in the Final Examination](chart)

Subject

<table>
<thead>
<tr>
<th>Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chinese</td>
</tr>
</tbody>
</table>

(a) The scores of Candy in the best and the worst subjects differ by _______.

(b) Candy’s average score in the final examination is _______. (Correct the answer to one decimal place.)

(c) This is the conversion table between scores and their corresponding grades:

<table>
<thead>
<tr>
<th>Score 0-39</th>
<th>Score 40-59</th>
<th>Score 60-69</th>
<th>Score 70-84</th>
<th>Score 85-100</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade E</td>
<td>Grade D</td>
<td>Grade C</td>
<td>Grade B</td>
<td>Grade A</td>
</tr>
</tbody>
</table>

(i) In how many subjects does Candy get Grade A?

Answer: She gets Grade A in _______ subjects.

(ii) What Grade does Candy get in Visual Arts?

Answer: She gets Grade _______.
42. 4 times a number and add 36 equals 84. Find the number by the **method of solving equation**. 
(Show your working)

— END OF PAPER —