The remedial teaching strategy for the selected mathematical competencies is describe as below

**Competency 1**

1. Common errors done by the pupils:
   
   - While telling the place value pupil can tell hundred thousand after ten thousand instead of lakh.

   **Remedial teaching;**
   
   - To (understand) explain the place value chart and the sixth place value through examples

   **Activities to be done to develop the sub competencies**

   **Pictorial Representation**
   
   - Showing pictures of Banana/areca/coconut plantations or people in (kumbh) mela etc from news papers and asking questions as to how to read and write the number of plants / people involved.

   Asking questions about the amount of money with rich people – meaning of lakh in the word lakhipathi (millionaire).
Drilling problems.

<table>
<thead>
<tr>
<th>Drilling Problems</th>
<th>Ten thousand</th>
<th>Thousands</th>
<th>Hundreds</th>
<th>Tens</th>
<th>ones</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>7</td>
<td>6</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>0</td>
<td>6</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

↑ New place value name is Ten Thousand

<table>
<thead>
<tr>
<th>Lakh</th>
<th>Ten thousand</th>
<th>Thousand</th>
<th>Hundred</th>
<th>Tens</th>
<th>ones</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>1</td>
<td>5</td>
<td>0</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>0</td>
<td>4</td>
<td>9</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>1</td>
<td>5</td>
<td>2</td>
<td>9</td>
<td>0</td>
</tr>
</tbody>
</table>

↑ New place value name is Ten Thousand

<table>
<thead>
<tr>
<th>Lakh</th>
<th>Ten thousand</th>
<th>Thousand</th>
<th>Hundred</th>
<th>Tens</th>
<th>ones</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>3</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>8</td>
</tr>
</tbody>
</table>

↑ New place value name is Lakh
To read a number we have to list place values. These place values are called ten thousand, lakh and ten lack places.

<table>
<thead>
<tr>
<th>Ten lakh</th>
<th>Lakh</th>
<th>Ten thousand</th>
<th>Thousand</th>
<th>Hundred</th>
<th>Tens</th>
<th>ones</th>
</tr>
</thead>
</table>

↑New place value name is Ten Lack

2. Likely mistakes / errors by students:

- Mistake in marking commas
- Mistakes in reading large numbers
- Mistakes in writing numbers where ‘0’ is to be written in between other digits

**Remedial teaching**

- Students were asked to practice marking commas – Starting from the right, first three digits, then two digits per period
- Making the student to identify the right most period as ones period, the one to its left as thousand period, and the next to the left as lakhs period—till this is internalized by each child.
- The students were given practice in writing zeros for periods not mentioned while reading.

Ex: Three lakhs sixteen

Lakhs period 3

Thousand period – nil—00

Ones period 16 =>016

Lakhs   Thousands   Ones
        3          00     016

=> 3, 00,016
Activates required for developing sub competency

*Group based involvemental*

*Use of play cards/ flash cards*

Paint Different colors to groups

<table>
<thead>
<tr>
<th>Group</th>
<th>Lakhs</th>
<th>Thousand</th>
<th>One’s</th>
</tr>
</thead>
<tbody>
<tr>
<td>Places</td>
<td>Ten lakh</td>
<td>Lakh’s</td>
<td>Ten thousand</td>
</tr>
<tr>
<td>Numbers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Place</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Value</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Different colors may be used for different period headings. Three cards for each digit may be prepared.

Sample Card -

```
5
```

a) $478639 = 4,78,639 = \rightarrow 4$ in the lakhs period, $78$ in thousands period, $639$ in ones period

\[ \therefore \text{Four lakhs seventy eight thousand six hundred and thirty nine} \]

a) $3000405 = 30,00,405 = 30$ in the lakhs period, $00$ in thousand period (not reading), $405$ in ones period

\[ \therefore \text{Thirty lakhs four hundred and five.} \]
a) Five lakhs ninety two thousands and eight = 5 in lakh’s period, 92 in thousands period, 008 in ones period.

∴ 5, 92,008

B) Sixty four lakhs and nine=64 in lakhs period, 00 in thousand period, 609 in ones period

∴ 64, 00,009

**Simulation**

<table>
<thead>
<tr>
<th>Play 1</th>
<th>Ten lakh’s</th>
<th>Ten lakh’s</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lakh’s</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ten thousand</td>
<td></td>
<td>Ten thousand</td>
</tr>
<tr>
<td>Thousand</td>
<td></td>
<td>Thousand</td>
</tr>
<tr>
<td>Hundred</td>
<td></td>
<td>Hundred</td>
</tr>
<tr>
<td>Ten’s</td>
<td></td>
<td>Ten’s</td>
</tr>
<tr>
<td>One’s</td>
<td></td>
<td>One’s</td>
</tr>
</tbody>
</table>

Number Construction game---- How to play:

Form two groups of 10 students each. In each group, every members represents a distinct digit from 0 to 9. (Student may wear a badge showing the digit represented by them. When the teacher says or (writes on the board) a number (containing maximum seven digits), student in each group have to stand in order such that the number is correctly formed. The group which first forms the number correctly wins. (Imp: Use a number in which no digit repeats).
3. Likely mistakes/Errors:

- While expanding, there may be confusion or mix up of ‘+’ and ‘X’ symbols. Students may interchange face value and place value.

Remedial Teaching

- Explain with examples that expanding Mean writing as the sum of the place values.
- Face value – value of the digit on its own not when used in a number. Place value is the value acquired by the digit due to the place it occupies in the number.
- These ideas may be explained with suitable examples.

Activities for developing the sub competencies

Group based presentation-

Token reward reference

Illustrations using pocket board

Using the pocket board to learn place, face value and place value concepts explaining with arrow marks that:

- Ten times one is ten
- Ten times ten is hundred
- Ten times hundred is thousand
- Ten times thousand is ten thousand
- Ten times ten thousand is lakh
- Ten times lakh is ten lakh
<table>
<thead>
<tr>
<th>Place</th>
<th>Value of the place</th>
<th>Face value of the digit</th>
<th>Place value of the digit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ten lakhs</td>
<td>10,00,000</td>
<td>2</td>
<td>2X10,00,000 = 20,00,000</td>
</tr>
<tr>
<td>Lakhs</td>
<td>1,00,000</td>
<td>3</td>
<td>3X 1,00,000 = 3,00,000</td>
</tr>
<tr>
<td>Ten Thousand</td>
<td>10,000</td>
<td>4</td>
<td>4X 10,000 = 40,000</td>
</tr>
<tr>
<td>Thousands</td>
<td>1,000</td>
<td>5</td>
<td>5X 1,000 = 5,000</td>
</tr>
<tr>
<td>Hundreds</td>
<td>100</td>
<td>6</td>
<td>6X 100 = 600</td>
</tr>
<tr>
<td>Tens</td>
<td>10</td>
<td>7</td>
<td>7X 10 = 70</td>
</tr>
<tr>
<td>Ones</td>
<td>1</td>
<td>8</td>
<td>8X 1 = 8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Place Value of the place</th>
<th>Face value of the digit</th>
<th>Place value of the digit</th>
</tr>
</thead>
<tbody>
<tr>
<td>10X1,00,000</td>
<td>10X10,000</td>
<td>10X1,000</td>
</tr>
</tbody>
</table>

36,58,724

Using Number Expansion Chart

<table>
<thead>
<tr>
<th>Place</th>
<th>Value of the place</th>
<th>Face value of the digit</th>
<th>Place value of the digit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ten lakhs</td>
<td>10,00,000</td>
<td>2</td>
<td>2X10,00,000 = 20,00,000</td>
</tr>
<tr>
<td>Lakhs</td>
<td>1,00,000</td>
<td>3</td>
<td>3X 1,00,000 = 3,00,000</td>
</tr>
<tr>
<td>Ten Thousand</td>
<td>10,000</td>
<td>4</td>
<td>4X 10,000 = 40,000</td>
</tr>
<tr>
<td>Thousands</td>
<td>1,000</td>
<td>5</td>
<td>5X 1,000 = 5,000</td>
</tr>
<tr>
<td>Hundreds</td>
<td>100</td>
<td>6</td>
<td>6X 100 = 600</td>
</tr>
<tr>
<td>Tens</td>
<td>10</td>
<td>7</td>
<td>7X 10 = 70</td>
</tr>
<tr>
<td>Ones</td>
<td>1</td>
<td>8</td>
<td>8X 1 = 8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Place Value of the place</th>
<th>Face value of the digit</th>
<th>Place value of the digit</th>
</tr>
</thead>
<tbody>
<tr>
<td>10X1,00,000</td>
<td>10X10,000</td>
<td>10X1,000</td>
</tr>
</tbody>
</table>

23,45,678
23, 45,678 = 20, 00,000+3, 00,000+40,000+5,000+600+70+8

Or

2X10, 00,000+3X1, 00,000+4X10,000+5X1,000+6X100+7X10+8X1

Face value = digit

Place value of a digit = face value of the digit X value of the place

Expanding = sum of the place values of the digits

We come across large numbers in many different situations. For example, while the number of children in your class would be a 2-digit number, the number of children in your school would be a 3 or 4-digit number.

1. The number of people in the nearby town would be much larger. Is it a 5 or 6 or 7-digit number?

2. Do you know the number of people in your state? How many digits would that number have?

What would be the number of grains in a sack full of wheat? A 5-digit number, a 6-digit number or more?

4. Likely mistakes / errors by the students:

- Recognizing numbers with larger digits as larger

  Wrong usage of ‘ >’ and ‘ <’ symbols.

Remedial teaching:

- Using examples like

  1000 and 9999

  5000001 and 898764
The meaning of smaller number and larger number to be explained

The symbols ‘<’ and ‘ >’ are to be read using the direction of ‘smaller’ contained in them

Activities for developing the sub competencies

**Group based involve mental**

**Using maps**

Showing maps of different areas and also as explained in part I illustrating that adding two numbers, the sum obtained is larger than the addends.

Through such activities the following concepts are to be developed

1) A number with more number of digits is larger.

2) Among numbers having equal number of digits, the one having a larger digit at a higher or equal place is larger

Later to order given (more than two numbers) let the students pick the smallest and write as the first number, pick the smallest among the rest and write as the 2\textsuperscript{nd} number and so on to set the ascending order.

**Using panel boards and flashcards**

Using panel board, reinforce the learning regarding the use of ‘>’ and ‘<’ symbols

- Write numbers on flash card. Let two students stand with those numbers. A third student is given ‘>’ card and asked to stand between them showing ‘>’ or ‘<’ symbol as the case may be

1. What is 10-1=?

2. What is 100 - 1 =?

3. What is 10,000-1=?
4. What is 1,00,000-1 =? 

5. What is 1,00,00,000-1 =? 

6. Give five examples where the number of things counted would be more than 6-digit number.

7. Starting from the greatest 6-digit number, write the previous five numbers in descending order.

8. Starting from the smallest 8-digit number, write the next five numbers in ascending order and read them.

One can extend this idea to numbers upto lakh as seen in the following table. (Let us call them placement boxes). Fill the entries in the blanks left.

<table>
<thead>
<tr>
<th>Number</th>
<th>TLakh</th>
<th>Lakh</th>
<th>TTh</th>
<th>Th</th>
<th>H</th>
<th>T</th>
<th>O</th>
<th>Number Name</th>
<th>Expansion</th>
</tr>
</thead>
<tbody>
<tr>
<td>7,34,543</td>
<td>—</td>
<td>7</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>Seven lakh thirty four thousand five hundred forty three</td>
<td></td>
</tr>
<tr>
<td>32,75,829</td>
<td>3</td>
<td>2</td>
<td>7</td>
<td>5</td>
<td>8</td>
<td>2</td>
<td>9</td>
<td>—</td>
<td>3 × 10,00,000 + 7 × 10,000 + 5 × 1000 + 8 × 100 + 2 × 10 + 9</td>
</tr>
</tbody>
</table>

Similarly, we may include numbers upto crore as shown below:

<table>
<thead>
<tr>
<th>Number</th>
<th>TCr</th>
<th>Cr</th>
<th>TLakh</th>
<th>Lakh</th>
<th>TTh</th>
<th>Th</th>
<th>H</th>
<th>T</th>
<th>O</th>
<th>Number Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,57,34,543</td>
<td>6</td>
<td>5</td>
<td>3</td>
<td>2</td>
<td>7</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>4</td>
<td>Thirty two lakh seventy five thousand four hundred thirty</td>
</tr>
<tr>
<td>65,32,75,829</td>
<td>6</td>
<td>5</td>
<td>3</td>
<td>2</td>
<td>7</td>
<td>5</td>
<td>8</td>
<td>2</td>
<td>9</td>
<td>Sixty five crore thirty two lakh seventy five thousand eight hundred twenty nine</td>
</tr>
</tbody>
</table>
Through which teacher extract the solution to the following problems

- Identify the smaller number:
  
  a) 21563 and 48975
  
  b) 1,00,000 and 99,999

- Identify the larger:

  4,50,361 and 11,98,769

- Arrange in the ascending order

  47,631  38,647  96,501  80,113

- Arrange in the descending order

  4,947  1,67,963  28,631  25,63,401

5. Likely mistakes /errors by students:

- Students may see the digit at the place required to be rounded rather than the next lower place.

- 2. Students may make digits including the required place zero.

**Remedial Teaching:**

- Students should be told to carefully look for the next lower place.

- Lower place digits are to be made zero.

**Activities for Developing the Sub-Competencies**

**Group Based Presentation**

A trader is to receive money from two sources. The money he is to receive is Rs 13,569 from one source and Rs 26,785 from another. He has to pay Rs 37,000 to someone else by the evening. He rounds off the numbers to their nearest thousands and quickly works out the rough answer. He is happy that he has enough money
Illustrations

Children were made aware of situations such as marriage, air etc where large number of people gathers. In such situations, the exact number of people cannot be counted Instead, estimation is done. For example, in a particular marriage function, there were approximately (about) 2000 people.

When we say that a rich person has about Rs 12,00,000 with him, we have estimated the amount to the lakh’s place.

When we say that a school has an approximate student strength of 1240, we have estimated the strength to the tens place. We say that the value is rounded to the tens place.

Using charts

11,500

In the above figure, 111,500 is nearer to 10,000 than to 20,000.

\[\therefore 11,500 \approx 10,000.\]

18,500

Here 18,500 is nearer to 20,000

\[\therefore 18,500 \approx 20,000\]

15,500

Here, 15,500 is nearer to 20,000

\[\therefore 15,500 \approx 20,000\]
Here, 15,000 is equidistant from both 10,000 and 20,000. Such numbers are rounded to the higher number.

\[ 15,000 \approx 20,000. \]

**Using flash cards**

i) Round 34,674 to the ten thousands place.

Here, the digit at the next lower place to the required place is 4 (at the thousands place) \[ 4 < 5 \]

\[ 34,674 \approx 30,000 \]

ii) Round 1, 76,165 to the lakhs place.

Here the digit at the next lower place (ten thousands) is 7. \[ 7 > 5 \]

\[ 1,76,165 \approx 2,00,000 \]

iii) Round 35, 60,784 to the ten lakhs place.

Here, the digit at the next lower place (lakhs place) is 5

\[ 35,60,784 \approx 40,00,000 \]

Likely mistakes /errors by students:

- There may be confused in marking the commas (for separating the periods) in the correct positions
Remedial Teaching:

Explaining with examples with the help of chart regarding 5th and 6th places
Repeatedly telling that while in the Indian system the periods with 3, 2, 2 digits (from the right), in the international system, it is 3, 3, 3.

Activities for development of the sub competencies

**Using pocket board or slide board**

Explaining the similarities and differences with examples using pocket board/slide board.

Explain with examples of converting from one system to another by putting different digits in the pockets

<table>
<thead>
<tr>
<th>Changing places</th>
<th>Indian</th>
<th>International</th>
</tr>
</thead>
<tbody>
<tr>
<td>6th place</td>
<td>Lakh</td>
<td>Hundred thousand</td>
</tr>
<tr>
<td>7th place</td>
<td>Ten lakh</td>
<td>million</td>
</tr>
</tbody>
</table>

**Competency 2**

1. Likely mistakes / errors by students:
   - They may make mistakes in identifying the numerals

*Remedial Teaching:*

- To recollect the knowledge / concept through activities

Activities for developing the sub competencies

*Group based involvemental*
Using flash cards and paper cuttings

Preparing different flash cards of numerals and helping the students to use them independently, telling the students to collect the paper cuttings of numerals that appear in newspapers.

Regionally we use different languages to talk and write. To indicate the letter ___ of alphabets we use symbol ___ in Hindi and symbol ___ in Kannada. Similarly to represent the numbers we use different symbols in different languages.

For Ex: To represent the number of fingers in a hand we use the symbol ___ in Kannada, ___ in Hindi/Devanagari and V in roman systems. We call these symbols as numerals. Internationally used numerals are 0,1,2,3,4,5,6,7,8,9

Match the Following

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>Roman</td>
</tr>
<tr>
<td>X</td>
<td>Hindu, Arabic (International System)</td>
</tr>
<tr>
<td>10</td>
<td>Devanagari</td>
</tr>
<tr>
<td>20</td>
<td>Kannada</td>
</tr>
</tbody>
</table>

Using clocks/Time table

We have been using the Hindu-Arabic numeral system so far. This is not the only system available. One of the early systems of writing numerals is the system of Roman numerals. This system is still used in many places.

For example, we can see the use of Roman numerals in clocks; it is also used for classes in the school time table etc.

Using flash cards

Find three other examples, where Roman numerals are used. The Roman numerals XV
The Roman numerals

I, II, III, IV, V, VI, VII, VIII, IX, X

denote 1, 2, 3, 4, 5, 6, 7, 8, 9 and 10 respectively. This is followed by XI for 11, XII for 12,... till XX for 20. Some more Roman numerals are:

<table>
<thead>
<tr>
<th>I</th>
<th>V</th>
<th>X</th>
<th>L</th>
<th>C</th>
<th>D</th>
<th>M</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>5</td>
<td>10</td>
<td>50</td>
<td>100</td>
<td>500</td>
<td>1000</td>
</tr>
</tbody>
</table>

The rules for the system are:

a) If a symbol is repeated, its value is added as many times as it occurs: i.e. II is equal 2, XX is 20 and XXX is 30.

b) A symbol is not repeated more than three times. But the symbols V, L and D are never repeated.

c) If a symbol of smaller value is written to the right of a symbol of greater value, its value gets added to the value of greater symbol.

\[ VI = 5 + 1 = 6, \quad XII = 10 + 2 = 12 \]

And \[ LXV = 50 + 10 + 5 = 65 \]

d) If a symbol of smaller value is written to the left of a symbol of greater value, its value is subtracted from the value of the greater symbol.

\[ IV = 5 - 1 = 4, \quad IX = 10 - 1 = 9 \]

\[ XL = 50 - 10 = 40, \quad XC = 100 - 10 = 90 \]

e) The symbols V, L and D are never written to the left of a symbol of greater value, i.e. V, L and D are never subtracted.

The symbol I can be subtracted from V and X only.

The symbol X can be subtracted from L, M and C only.
2. Likely mistakes /errors by students:

- They may make mistakes in recognizing the hours and minutes

**Remedial Teaching**

- Students should be told to adapt the time concept in every new situation

Activities for development of the sub competencies

**Using clocks/stop watches**

1) Three friends read time from a clock. Who is right?

Do you like sky watching? If Yes, then this one should interest you.

a) At what time does the sun rise at your place?

b) When does the sun set?

Does the sun rise and set at the same times every day?

3) How long does your school assembly take?

How long is your lunch break?

How long is your games period?

Is it the same as all the other periods?

4) Draw where the hands will be.

a) 15 minutes after 5’o clock.

_____ _______
b) 30 minutes after 8’o clock.

Competency 3

1. Possible mistakes committed by students:
   
   - They may assume numbers and write + sign.
   
   - They may try to solve the problem in the same given order

Remedial teaching:

- When we add the negative number there will not be any change in the sign. Teach this well

- If we add the positive and negative quantities first and then subtract then we can solve the problem easily

Activities for developing the sub competency

Group based presentation

Expenditure and savings of a salaried person

1. A person gets 8540 Rs as his monthly salary. He spends 1100 Rs for house rent, 2150.75 Rs for food items, 350.50 Rs. For children’s education, 946.75 Rs for milk and electricity and 575.25 Rs for entertainment and other purposes, then what is the remaining money with him.

Solution: Find the total expenditure and subtract it from the salary.

Step 1: First calculate the sum of all expenditures. List them and add them according to their places.

<table>
<thead>
<tr>
<th>Item</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>House Rent</td>
<td>1100.00</td>
</tr>
<tr>
<td>Food Items</td>
<td>2150.75</td>
</tr>
</tbody>
</table>
Children education 350.50
Milk and Electricity 946.75
Entertainment and Other 575.25
Total Expenditure 5113.25
Step 2: Monthly income 8540.00
Total Expenditure 5113.25

2. Samson traveled 5 km 52 m by bus, 2 km 265 m by car and the rest 1 km 30 m he walked. How much distance did he travel in all?

Solution: Distance travelled by bus = 5 km 52 m = 5.052 km
Distance travelled by car = 2 km 265 m = 2.265 km
Distance travelled on foot = 1 km 30 m = 1.030 km

Therefore, total distance travelled is

\[ 5.052 \text{ km} \]
\[ 2.265 \text{ km} \]
\[ + 1.030 \text{ km} \]
\[ 8.347 \text{ km} \]

Therefore, total distance travelled = 8.347 km

Subtract 1.32 from 2.58

Monthly savings 3426.75

Drill Problem:

1) For a function 75 kg sugar is brought, in that 13.500 kg is used for payasam, 28.750 kg for laddu, 17.250 kg is used for jilebi preparation. Then how much sugar is remaining?
2) In the 150 quintal rice produced in a year, the farmer used 13.5 quintal for consumption in house, 1.5 quintal for seeds and sells the remaining. How much quintal rice did he sell?

Simplify

1) \( 6342.75 - 2324.50 + 3452.75 - 1234.50 \)

2) \( 28.436 \text{ kg} + 59.642 \text{ kg} - 18.250 \text{ kg} \)

\( 65.865 \text{ ltr} - 15.435 \text{ ltr} - 12.645 \text{ ltr} + 32.100 \text{ ltr} \)

2. Possible mistakes committed by students:

- They may not convert the basic units and operate
- They may try to do division first

Remedial teaching:

- Make them understand the importance of the conversion of basic units in any operation.
- If we have to find total number then we have to multiply first or if there is a bracket then solve the thing inside the bracket first.

Activities for developing the sub competency

1) Every bag has 20 kgs of rice. There are 4.5 bags. The total cost of rice is 1440 Rs. Then what is the cost of 1 kg of rice.

Solution:

First list the data given

Total bags == 4.5

The weigh of rice in every bag == 20 kg

Cost of total rice == 1440Rs
Total weight of the rice = 20 \times 4.5 = 90.00 \text{ kg}

90 \text{ kg rice cost} = 1440 \text{ Rs, then}

\[
\begin{array}{c}
16 \\
\hline
90)1440 \\
90 \\
\hline
540 \\
540 \\
\hline
000
\end{array}
\]

The cost of 1 kg rice is \(\frac{1440}{90} = 16\) Rs.

B) Drilling problems:

1) Suresh bought 6 kg of fruit for 22.5 Rs each and he equally distributed (sold) it among 5 people. How much money every one should pay Suresh?

2) If we bring 16.5 pockets having 10 pens each and distributed it among 55 people how many pens will every one get?

Simplify

1. \((22.5 \times 4) + 5\)

2. \((350 \text{ min} \times 4 \text{ days}) \div 60 \text{ min}\)

3. \((46.84 \times 36) \div 48\)
3. Possible mistakes committed by students:

- calculating the product of quantity and rate
- calculating the total
- writing the total in letters

**Remedial teaching:**

- Making the students understand using different model bills group based involvemental activity

Previously students will have some experience of going to shops and purchasing things and they might have seen the bills

Eg: Grocery shop bill, cloth store bill, stationary book shop bill, medical store bill, etc

To tell students to collect these bills, showing these bills to students and by giving it to students telling them to make a list of information’s given in the bill.

Eg: 1) bill number and the date of the bill

2) Name of the shop

3) Name of the purchaser

4) Number of items purchased

5) Description of items and quantity

6) Rate of the item

7) Product of quantity and rate

8) Total amount in digits and in sentence

9) Counter sign of shop keeper
While listing out these things we can give an activity of writing a bill.

<table>
<thead>
<tr>
<th>Kavana Book Depo and General Stores</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nehru Road, Shimoga</td>
</tr>
</tbody>
</table>

Bill No :0012

Date : 28/11/2008

Shri/Smt Satheesh, Shimoga

<table>
<thead>
<tr>
<th>S.No</th>
<th>Details</th>
<th>Quantity</th>
<th>Rate</th>
<th>Rs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>200 page exercise book</td>
<td>10</td>
<td>12</td>
<td>120.00</td>
</tr>
</tbody>
</table>

Drill sums:

karunakar purchases the following items for his school cooperative society

Crayans 1 pack Rs. 12.50/ pack

Copy book 4 Rs. 6.30/ book

Pens 2 Rs. 5.50/ pen

Paper 2 dozen Rs. 6/ dozen

Write the details in a bill

Write the details in a bill

On 28/11/2008 Deepa purchases 2.8 kg apples in 35 Rs/kg rate, grapes 3 kg as 40 Rs/kg, 3 kg banana as 12 Rs/kg rate from a cooperative society. Enter the details in the bills and prepare the bill
Competency 4

1. Possible mistakes committed by students:
   - While writing the equivalent fractions students may multiply / divide the numerator and denominator with different numbers.

Remedial Teaching:
   - While multiplying or dividing a fraction stress upon the point to multiply or divide by the same number and give more drill sums in examples

Activities for developing the sub competencies

Group based presentations

Using circular card boards/ Thermacoals

Cutting the Cake:
Rajni’s Father brought a cake. She divided the cake into 4 equal parts – for herself, her brother Raju her father and her mother.

- Colour each share with different colours
- How much does each get?
- Mother gave her share of cake to Raju. Now colour the total part that Rajni will get.
- Out of 4 parts Rajini will get _________ parts which is equal to half of the cake so she can write it as $\frac{2}{4}$ or $\frac{1}{2}$

Before Rajni’s mother gave her share to Rajni, she has only $\frac{1}{2}$ of half the cake which was $\frac{1}{4}$ of the total cake.

- Colour the share Raju got.
- How much of the cake do Rajni and Raju together get? Colour their Altogether they get 3 parts out of 4. So we can write it as $\frac{3}{4}$.

*Group based involvemental*

*Using card board/colour paper cut outs*

To write equivalent fractions to $\frac{1}{2}$

- $\frac{1}{2}$
- $\frac{2}{4}$
- $\frac{3}{6}$
- $\frac{6}{12}$

All the circles are similar and shaded position is also same but there is only difference in the parts of it.

Note: you can teach this concept by using cutouts of card board or color papers
Coloured Parts

Complete These

This circle is divided into two equal parts.

Out of _______ equal parts

one part is coloured blue.

Here the circle is divided into___________

equal parts. Out of _______ equal parts,

_______ parts are coloured blue.

Here the circle is .................

........................................

.................................

Here the circle is .................

........................................

.................................

Here the circle is .................

........................................

.................................

So we can say that \( \frac{1}{2} = \frac{2}{4} = \frac{\ldots}{6} = \frac{\ldots}{8} \)

Group based presentations

Using pictorial representations

Cutting the Halwa:

Ramesh bought a piece of Halwa for his children Rani and Sita
The divided it equally for them

- This piece is too big. We can’t cut it, They said so the divided to half again.
  Now how many pieces will Rani get?

- What part of the Halwa is it ________

- Make it every smaller, dad they asked so he again cut the Halwa into smaller pieces.
  OK, Thank you, Dad

- Now how many pieces will each get?
- What part of the Halwa in each piece now?

- If Ramesh had cut the Halwa in to 6 equal parts now how many pieces would each man got? Look at your answer for question 1 to 4 and write

*Peer group study session*

*Using copies of the grid*

*Play This Game*

You can play this game with your friends.

Take many copies of the grid as shown here.
Consider any fraction, say \( \frac{1}{2} \).

Each one of you should shade \( \frac{1}{2} \) of the grid.

In a proper fraction the denominator shows the number of parts into which the whole is divided and the numerator shows the number of parts we have taken out. Therefore, in a proper fraction the numerator is always less than the denominator.

fractions \( \frac{3}{4}, \frac{1}{2}, \frac{5}{8} \), are all proper fractions

The fractions, where the numerator is bigger than the denominator are called improper fractions.

Thus, fractions like \( \frac{3}{2}, \frac{12}{7}, \frac{18}{5} \), are all improper fractions

Mixed Fractions. A mixed fraction has a combination of a whole and a part.

Another Way

Is there any other way to obtain equivalent fractions? Look at Fig

\[
\begin{align*}
\frac{4}{6} & \text{ is shaded here.} \\
\frac{2}{3} & \text{ is shaded here.}
\end{align*}
\]

These include equal number of shaded things i.e. \( \frac{4}{6} = \frac{2}{3} = \frac{4 \div 2}{6 \div 2} \)
Peer group study session

To get equivalent fractions by multiplying both numerator and denominator with the same number.

\[
\frac{1}{2} = \frac{1 \times 2}{2 \times 2} = \frac{2}{4}
\]

\[
\frac{1}{2} = \frac{1 \times 4}{2 \times 4} = \frac{4}{8}
\]

\[
\therefore \frac{1}{2} = \frac{2}{4}
\]

\[
\frac{1}{2} = \frac{1 \times 6}{2 \times 6} = \frac{6}{12}
\]
By dividing both numerator and denominator with the same number we get equivalent fractions.

\[
\frac{2}{4} = \frac{2 \div 2}{4 \div 2} = \frac{1}{2}
\]

\[
\frac{4}{8} = \frac{4 \div 4}{8 \div 4} = \frac{1}{2}
\]

\[
\frac{6}{12} = \frac{6 \div 6}{12 \div 6} = \frac{1}{2}
\]

Definition: By multiplying or dividing the numerator and denominator of a fraction by the same non zero number we get equivalent fractions.

Identification the fraction which does not belong to the group

1) \( \frac{2}{3}, \frac{4}{6}, \frac{3}{8}, \frac{10}{15} \)

Group based presentations

Using pictorial representations

Consider \( \frac{1}{2} \) and \( \frac{1}{3} \) as shown in the below Fig. A the portion of the whole corresponding to \( \frac{1}{2} \) is clearly larger than the portion of the same whole corresponding to \( \frac{1}{3} \).
So $\frac{1}{2}$ is greater than $\frac{1}{3}$

Look at more examples

In Fig b(i) we have 2 quarter parts of the figure shaded. This means we have 2 parts out of 4 shaded or $\frac{1}{2}$ of the figure shaded.

That is

Look at Fig B(ii)

Fig B (ii) demonstrates

What do we learn from the above examples? The sum of two or more like fractions can be obtained as follows:

Step 1 Add the numerators.
Step 2 Retain the (common) denominator.

Step 3 Write the fraction as:

Result of Step 1

Result of Step 2

1. add with the help of a diagram

\[
(i) \frac{1}{8} + \frac{1}{8} \\
(ii) \frac{2}{5} + \frac{3}{5} \\
(iii) \frac{1}{6} + \frac{1}{6} + \frac{1}{6}
\]

(i) 2. Add \(\frac{1}{12} + \frac{1}{12}\). How will we show this pictorially? Using paper folding?

3. Make 5 more examples of problems given in 1 and 2 above.

Solve them with your friends

Let us, thus, add \(\frac{3}{5}\) and \(\frac{1}{5}\)

We have \(\frac{3}{5} + \frac{1}{5} = \frac{3+1}{5} + \frac{4}{5}\)

So, what will be the sum of \(\frac{7}{12}\) and \(\frac{3}{12}\)?

Finding the balance

(Sharmila had \(\frac{5}{6}\) of a cake. She gave \(\frac{2}{6}\) out of that to her younger brother. How much cake is left with her?)

A diagram can explain the situation (Fig). (Note that, here the give fractions are like fractions).

We find that \(\frac{5}{6} - \frac{2}{6} = \frac{5-2}{6} = \frac{3}{6} = \frac{1}{2}\)

(Is this not similar to the method of adding like fractions?)
Thus, we can say that the difference of two like fractions can be obtained as follows:

Step 1 Subtract the smaller numerator from the bigger numerator.

Step 2 Retain the (common) denominator.

Step 3 Write the fraction as: Result of Step 2  
                                          Result of Step 1

Can we now subtract $\frac{3}{10}$ from $\frac{3}{8}$

2. Possible mistakes students may commit

   - They can wrongly understand the place value.

   - While saying the face value they may say from right side.

Remedial Teaching:

   - Teach them the importance of Decimal place and explain them that the value decreases towards right.

   - In whole number go from right to left, in decimals go from left to right

Activities for developing the sub competencies

Group based involvemental
Using rectangle strips or blocks

A rectangle strip is divided into 10 parts and 1 part is shaded that means 1 part in 10. If we write it in fraction form $\frac{1}{10}$, if we write it in decimal form $\frac{1}{10} = 0.1$.

One block divided into 10 equal parts means each part is $\frac{1}{10}$ (one-tenth) of a unit.

2 parts show 2 tenths and 5 pans show 5 tenths and so on. A combination of 2 blocks and 3 parts (tenths) will be recorded as:

<table>
<thead>
<tr>
<th>Ones</th>
<th>Tens</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

It can be written as 2.3 and read as two point three.

Let us look at another example where we have more than 'ones'. Each tower represents 10 units. So, the number shown here is:
i.e. $20 + 3 + \frac{5}{10} = 23.5$

This is read as 'twenty three point five'

Fill the table using block information

<table>
<thead>
<tr>
<th>Hundreds</th>
<th>Tens (10)</th>
<th>Ones (1)</th>
<th>Tenths (10)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(100)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Points of the Strips:

Look at this picture write what part of the strip in each green piece. Write the part for a piece of each Colourful Design

What part of this sheet is coloured blue

What part of the sheet is green?

Which colour covers 0.2 of the sheet?

Now Look at this sheet each strips is divided into 10 equal boxes. How many boxes and there in all.

Is each box $\frac{1}{100}$ part of the sheet.

How many blue boxes are there ____ is blue equal to $\frac{10}{100}$ of the sheet. We saw that blue is also equal to $\frac{1}{10}$ of the sheet. We wrote it as 0.1 of this stock can we say $\frac{10}{100} = \frac{1}{10} = 0.10 = 0.1$?

Think : Can we wise then ___ as 0.1 of the rupee

How many boxes are red? What part of the sheet is this?

Can we also write it as 0.15 of the sheet?

Now 3/100 of this sheet is blue and we can say 0.____ sheet is black.

How many white boxes are there in the sheet?

What part of the second sheet is white?

Group based presentations
Using growth charts

Growth Chart of a plant:

Amit sowed a few seeds of moong dal in the ground. The height of the plant grow to 1.4 cm in the first four days. After that it started growing faster.

Amit measured the height of the plant after every four days and put a dot on the chart. For example if you look at the dot marked on the fourth day, you can see on the left side scale that it is 1.4 cm high.

Now look at the height of each dot in cm and check from the table if he has marked the date correctly.

<table>
<thead>
<tr>
<th>Day</th>
<th>Length of the plant (in Cm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
<td>1.4</td>
</tr>
<tr>
<td>8</td>
<td>5.3</td>
</tr>
<tr>
<td>12</td>
<td>9.5</td>
</tr>
<tr>
<td>16</td>
<td>10.2</td>
</tr>
<tr>
<td>20</td>
<td>10.9</td>
</tr>
</tbody>
</table>
To know the value of decimal place:

In decimal system every place is 10 times more and less. Tens place is \( \frac{1}{10} \) of hundreds place, singles place is \( \frac{1}{10} \) of tens place. Similarly decimal place also.

Comparison of decimal numbers:

*Group based presentations*

*Using square sheet of papers*

Can you tell which is greater, 0.07 or 0.1?

Take two pieces of square papers of the same size. Divide them into 100 equal parts. For 0.07 we have to shade 7 parts out of 100.

Now, \( 0.1 = \frac{1}{10} = \frac{10}{100} \), so, for 0.1 shade 10 parts out of 100.

\[
0.07 = \frac{7}{100}, \quad 0.1 = \frac{1}{10} = \frac{10}{100}
\]

This means \( 0.1 > 0.07 \).

25.75 , 25.43 , 25.64 , 25.45

Here the numbers have the same single and tens place (When we go from left to right side the number which has bigger if decimal place is same there the number which has bigger number is next place is bigger). Thus,

\[
25.43 < 25.45 < 25.64 < 25.74
\]
In the tenth’s place 25.75 has the largest digit (7). Hence, it is largest member. Next largest is 25.64. Among 25.43 and 25.45, 25.45 has a larger digit(5) in the hundredth’s place. Hence it is larger.

<table>
<thead>
<tr>
<th>Hundred</th>
<th>Tens</th>
<th>Single</th>
<th>Tenth</th>
<th>Hundredth</th>
</tr>
</thead>
<tbody>
<tr>
<td>1000X</td>
<td>1/10</td>
<td>100X</td>
<td>1/10</td>
<td>1X</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10X</td>
<td>1/10</td>
<td>1/10</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1/10</td>
</tr>
</tbody>
</table>

Note: Using beads we can easily explain the place value.

Group based presentations

Using pictorial representation

David was measuring the length of his room. He found that the length of his room is 4 mi and 25 cm.

He wanted to write the length in metres.

Can you help him? What part of a metre will be one centimeter?

1 cm = \( \frac{1}{100} \) m or one-hundredth of a metre.

This means 25 cm = \( \frac{25}{100} \) m

Now \( \frac{1}{100} \) means 1 part out of 100 parts of a whole. As we have done for \( \frac{1}{10} \) let us try to show this pictorially.
Take a square and divide it into ten equal parts. What part is the shaded rectangle of this square?

1 it is \( \frac{1}{10} \) or one-tenth or 0.1, see Fig (i).

Now divide each such rectangle into ten equal parts. We get 100 small squares as shown in Fig (ii) and then what fraction is each small square of the whole square?

Each small square is (ii) or one-hundredth of the whole square. In decimal notation, we write \( \frac{1}{100} = 0.01 \) and read it as zero point zero one.

Example: Fill the blanks in the table using 'block' information given below, and write the corresponding number in decimal form.

<table>
<thead>
<tr>
<th>Hundreds</th>
<th>Tens</th>
<th>Ones</th>
<th>Tenths</th>
<th>Hundredths</th>
</tr>
</thead>
<tbody>
<tr>
<td>(100)</td>
<td>(10)</td>
<td>(1)</td>
<td>( \frac{1}{10} )</td>
<td>( \frac{1}{100} )</td>
</tr>
<tr>
<td>1</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

The number is \( 100 + 30 + 2 + \frac{1}{10} + \left( \frac{5}{100} \right) = 132.15 \)
Example: Fill the blank in the table and write the corresponding number in decimal form using 'block' information given below.

<table>
<thead>
<tr>
<th>Ones</th>
<th>Tenths</th>
<th>Hundredths</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1)</td>
<td>$\frac{1}{10}$</td>
<td>$\frac{1}{100}$</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ones</th>
<th>Tenths</th>
<th>Hundredths</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>4</td>
<td>2</td>
</tr>
</tbody>
</table>

Solution:

Therefore, the number is 1.42.
1) Write 8 meter 40 centimeter in decimal form

This becomes 8.4. 8m is in meter form. 40cm is \( \frac{40}{100} \) m. (1m = 100 cm) therefore,

8.40 or 8.4m.

2) Write 50 paise in rupees form

1 Rs = 100 paise

50 paise = 50/100 Rs =0.50 Rs

Drill sums:

1) Write in decimal form:

\[ a) \frac{5}{10} \quad b) \frac{9}{10} \quad c) \frac{45}{100} \quad d) \frac{62}{100} \quad e) \frac{75}{100} \quad f) \frac{4}{10} \quad g) \frac{7}{10} \]

2) Write these decimals in increasing order:

a) 15.34 , 16.46 , 15.74 , 15.22

b) 25.93, 24.33, 25.60, 25.73
3) Write these decimals in decreasing order:

a) 36.20 , 36.45 , 36.10 , 37.0

b) 42.44 , 42.46 , 43.0 , 42.90

Write the following in rupees form:

a) 42 paisa b) 25 paisa c) 75 paisa d) 50 paisa

3. Expected mistakes done by students

- Making mistake in writing the value in % form.
- Making mistake in converting the % value to fraction.
- Mistake in converting and writing in fraction form.

Remedial teaching.

- A value equivalent to hundred of a value or number is called percentage.
- Identity the percentage number, explaining the meaning of word percentage & identifying the percentage symbol.
- Writing in the percentage form using the percentage symbol.
- Converting percentage into fraction and fraction into percentage.
- Converting percentage into decimal form and decimal form into percentage form.
- Finding the percentage value.
- Identify the usefulness of percentage form.
Activities

Group based presentations

Students would have listened to the word percentage in day to day life. Percentage discount sale in shops, percentage extra may be heard by students. Students know the percentage marks they obtained using these evolve the concept of percentage.

In a school 60 students have passed among 75. In another school 24 have passed around 30. If we want to compare the score and say which one is better we cannot say it by seeing students numbers. We should convert these results into a common base. We take 100 as the common base. We call the number which is based on 100 as percentage.

1) Among 75 students, 60 are passed.
   \[ \therefore \text{For 100 students} = \frac{60}{75} \times 100 = 80\% \]
   We read it as 80 percent.

2) Among 30 students, 24 are passed.
   \[ \therefore \text{For 100 students} = \frac{24}{30} \times 100 = 80\% \]
   We read it as 80 percent.

We can recognize that the result of both the schools are same. Similarly using different verity of examples teach them the concept of percentage, percentage symbol and the way of reading and writing it.

Write using symbols.

- 40 percent = 40\%
- 50 percent = 50\%
- 65 percent = 65\%
**Read these**

20%, 25%, 12%, 42%, 38%, 27%, 75%.

Using easy numbers evolving the concept of percentage.

**Ex:** If 3 is for 50 then 6 is for 100 = 6%

If 4 is for 50 then 8 is for 100 = 8%

If 8 is for 50 then 16 is for 100 = 16%

If 20 is for 50 then 40 is for 100 = 40%

If 1 is for 10 then 10 is for 100 = 10%

If 2 is for 10 then 20 is for 100 = 20%

If 1 is for 25 then 4 is for 100 = 4%

If 25 is for 25 then 100 is for 100 = 100%

**Note:** Similarly make the students to calculate the percentage of marks obtained in the unit test and making then to write it in percentage form.

**Solve these problems**

1) If a saree of Rs.600 is sold for a discount of 20% then what is the selling price of the saree?

Discount = \(\frac{20}{100} \times 600 = 120\)

Selling price = Mentioned price – discount

600 – 120 = Rs.480/-
2) Last year rate of a book was Rs.8. If we increase the rate by 25% this year then what is the raise in the price of the book.

Increase per hundred = 25

Increase for 1 = \(\frac{25}{100}\)

Then increase for Rs.8, = \(\frac{25}{100} \times 8\) = 2 Rs.

Activities to develop the sub objectives.

Complete the following table.

<table>
<thead>
<tr>
<th>Quantity</th>
<th>Percentage</th>
<th>Appropriate Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>125</td>
<td>15</td>
<td>-</td>
</tr>
<tr>
<td>85</td>
<td>20</td>
<td>-</td>
</tr>
<tr>
<td>36</td>
<td>25</td>
<td>-</td>
</tr>
</tbody>
</table>

Additional problems.

Find the appropriate percentage forms.

1) 80% of 115 m
2) 90% of 190 km
3) 75% of 15 ltr
4) 20% of 12 hrs
5) 50% of 675 kg.
6) A person's monthly income is Rs.6,000/-. He uses 40% of it for household purpose. Then what is the amount of money used for household purpose.
Drill sums

1) Explain the percentage value on what does it mean by 100 th of a value.

2) Write these fractions in percentage form
   a) \( \frac{15}{100} \)  b) \( \frac{9}{19} \)  c) \( \frac{21}{100} \)  d) \( \frac{27}{100} \)

3) Write these percentages in fraction form
   a) 11%,  b) 21%,  c) 49%,  d) 64%,  e) 69%.

Competency 5

Possible mistakes students may commit:

- While writing down the decimals they may not write them according to the place values.
- They may not convert minutes in to hours while adding.
- While adding decimals to next place they may commit mistake

Remedial Teaching:

- While adding decimals having a ready reconer of place value.
- Because its 60 min per hour convert minutes into hours and add
- After the whole numbers put point and write zeros if there are no decimal places.

Activities for developing the sub competencies

Group based presentations

Using buds and square sheet of paper

1) Add 1.7 and 1.2

Through activities show the addition of small decimal numbers then ask them to do the addition of the large number.
Take buds (or buttons used in shirts). A bunch of 10 is considered as whole number and other as the decimal number and addition is done.

\[
\begin{array}{c}
\text{1.7} \\
+ \\
\text{1.2} \\
\hline \\
\text{2.9}
\end{array}
\]

Do This

Add 0.35 and 0.42.

Take a square and divide it into 100 equal parts.

Mark 0.35 in this square by shading 3 tenths and colouring 5 hundredths.

Mark 0.42 in this square by shading 4 tenths and colouring 2 hundredths.

Now count the total number of tenths in the square and the total number of hundredths in the square.

Therefore, 0.35 + 0.42 = 0.77

Thus, we can add decimals in the same way as whole numbers.
Example 13 Samson traveled 5 km 52 m by bus, 2 km 265 m by car and the rest 1 km 30 m he walked. How much distance did he travel in all?

Solution: Distance travelled by bus = 5 km 52 m = 5.052 km

Distance travelled by car = 2 km 265 m = 2.265 km

Distance travelled on foot = 1 km 30 m = 1.030 km

Therefore, total distance travelled is

\[
\begin{align*}
5.052 \text{ km} \\
2.265 \text{ km} \\
+ 1.030 \text{ km}
\end{align*}
\]

\[
8.347 \text{ km}
\]

Therefore, total distance travelled = 8.347 km

3) Add the following 304.75 +118.50 + 498.00 + 217.50

<table>
<thead>
<tr>
<th>Thousands</th>
<th>Hundreds</th>
<th>Tens</th>
<th>Ones</th>
<th>Tenth</th>
<th>Hundredth</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>0</td>
<td>4</td>
<td>7</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>8</td>
<td>5</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>9</td>
<td>8</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>7</td>
<td>5</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>3</td>
<td>8</td>
<td>7</td>
<td>5</td>
</tr>
</tbody>
</table>
Addition using place value table

4) 2 hours 50 minutes + 3 hrs 25 min + 3 hrs 15 min + 2 hrs 20 min

<table>
<thead>
<tr>
<th>Hours</th>
<th>Minutes</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>50</td>
</tr>
<tr>
<td>3</td>
<td>25</td>
</tr>
<tr>
<td>3</td>
<td>15</td>
</tr>
<tr>
<td>2</td>
<td>20</td>
</tr>
<tr>
<td>11</td>
<td>50</td>
</tr>
</tbody>
</table>

Note: per hour it is 60 minutes, so add the minutes and convert them into full hour and then we can add it to next place. If we divide the minutes by 60 the dividend is full hour and remainder is minutes.

Drilling sums

1) Ganesh traveled 3.240 kms by walk, 124.550 kms by bus and 329.725 kms by train. What is the total distance traveled by him?

2) In a year a farmer spends 12352.75 Rs for fertilizers, 3452.50 Rs for pesticides and 5352.50 Rs for labors. What is the total amount spent by him?

3) For the midday meal programme in a school they use 10.406 kg rice first day, second day 10.700 kg rice and 11.200 kg rice on third day, then what is the total amount of rice spent in the three days?

4) A worker works in a farm for 9hrs 45 min on first day, 8 hrs 30 mins on second day, 8hrs 15 mins on third day and 7hrs 45 mins on the fourth day. Then what is the total time of work done by him (express it in hours)
Add the following

1) Rs245.5 + Rs 23.75 = ---------------
2) 238.2 ltr + 306.250 ltr = ---------------
3) 3hrs 20 min + 4 hrs 45 min = ---------------
4) Rs 232 + Rs 145.50 = ---------------

2. Possible mistakes done by students:
   - Mistake in writing the place value
   - They may wrongly understand the minutes to hr conversion

Remedial Teaching:
   - Using table as in addition and subtraction
   - While converting 1 hr into decimal place taking it as 60 min

Activities for developing the sub competencies

Group based presentations

Using buds

Similar to addition, consider the bunch of ten buds as whole number and the bunch having less than ten buds as decimal number.

1) subtract 1.3 from 2.5
2) Subtract 1.32 from 2.58

This can be shown by the table.

<table>
<thead>
<tr>
<th>Ones</th>
<th>Tenths</th>
<th>Hundredths</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$\frac{1}{10}$</td>
<td>$\frac{1}{100}$</td>
</tr>
<tr>
<td>2</td>
<td>5</td>
<td>8</td>
</tr>
<tr>
<td>-1</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>6</td>
</tr>
</tbody>
</table>

Thus, $2.58 - 1.32 = 1.26$

Therefore, we can say that, subtraction of decimals can be done by subtracting hundredths from hundredths, tenths from tenths, ones from ones and so on, just as we did in addition.
Let us subtract 1.74 from 3.5.

<table>
<thead>
<tr>
<th>Ones</th>
<th>Tenths</th>
<th>Hundredths</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1)</td>
<td>1/10</td>
<td>1/100</td>
</tr>
<tr>
<td>3</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>- 1</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>1</td>
<td>7</td>
<td>6</td>
</tr>
</tbody>
</table>

Subtract in the hundredth place.

Can't subtract!

so regroup

thus, 3.5 – 1.74=1.76

try These

1. Subtract 1.85 from 5.46;
2. Subtract 5.25 from 8.28 ;
3. Subtract 0.95 from 2.29 ;
4. Subtract 2.25 from 5.68.
5. Rs 208.300 - Rs 149.430

<table>
<thead>
<tr>
<th>Hundred</th>
<th>Tens</th>
<th>Ones</th>
<th>Tenth</th>
<th>Hundredth</th>
<th>Thousandth</th>
</tr>
</thead>
<tbody>
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<td>0</td>
<td>8</td>
<td>3</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>4</td>
<td>9</td>
<td>4</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>0</td>
<td>5</td>
<td>8</td>
<td>8</td>
<td>7</td>
<td>0</td>
</tr>
</tbody>
</table>

Drill Sums:

1) A fruit seller brought 135 kg of chikku for sale. If 127.75 kgs of fruits are sold out, what is the remaining quality of fruits

2) Monthly income of Ganesh is Rs 7435.50. If he spends Rs 4373.75. How much money is remaining with him?

3) Shekar daily reads for 5 hrs 30 mins. He spends 1 hr 45 mins for mathematics in the same time. Then what is the time spent by him to read the remaining subjects?

Subtract the following

1) Rs 165.25 - Rs 86.75 = ________
2) 375.420 kg – 148.500 kg = ________
3) 308.450 ltr – 22.330 ltr = ________
4) 4 hrs – 1 hr 15 min = ________

3. Possible mistakes done by students:

- They may multiply including the point and they may not carry it to next place
  
  (eg. 2.5 × 2 = 4.10)

- While placing the decimal point they may place it from left side.
Remedial teaching:

- While multiplying neglect the decimal point and place it after multiplication.
- As soon as finish the multiplication count the decimal points and place it.

Activities for developing the sub competencies

Group based presentations

Using buds

Multiply 1.2 by 3

1.2 X 3 means multiplying 1.2 by 3 or adding the multiplicand three times.

i.e. 1.2 + 1.2 + 1.2 = 3.6

Take two bunch of buds where bunch of 10 beads is one and bunch of 2 beads is 0.2.

\[ \begin{array}{ccc}
1.2 & + & 1.2 \\
\hline
1.2 & + & 1.2 \\
\hline
1.2 & + & 1.2 \\
\hline
3.6
\end{array} \]

i.e. \( 1.2 \times 3 = 3.6 \)
Note: In multiplication of decimal numbers we have to count the number of places in the multiplicand and multiplier and we have to place the point in the product than total number of places and we have to place it from right side

Drill sums:

1) A wooden box contains 12.500 kg of apple. If there are similar 27 boxes then what is the total weight of apples?

2) The cost of 1 kg of Banana is 16.50 Rs then what is the cost of 24.5 kg of Banana?

3) The length of a rectangle shaped field is 32.5 m and breadth is 18.5 m. Find out the area of the field.

Multiply the following

1) 1.2 X 5  2) 3.4 X 6  3) 6.2 X 1.2  4) 2.5 X 3.2  5) 398.5 X 12.5

6) 399.5 X 45.6

4. Possible mistakes done by students:

- They may count the number of places in the quotient and keep the decimal point without taking the remainder.

Remedial teaching:

- Put the decimal point in quotient and proceed further division and give more drill sums.

Activities for developing the sub competencies

Group based presentations

Using buds

Divide 3.6 by 3
3 Bunch of 10 buds each and a bunch of 6 buds is equal to 3.6

Because we have to divide 3.6 by 3 if we make 3 groups of equal size then it becomes 1 bunch of 10 beeds and 2 beeds in each group.

\[ \therefore \frac{3.6}{3} = 1.2 \]

a) Activities to improve sub objective:

\[ \frac{1.2}{3} \]

3) 3.6

\[ \frac{3.6}{3} \]

\[ \frac{0.6}{3} \]

Note: To take the next number after the decimal point in dividend put a point in the quotient and then get it.
Drill sums:

1) If 12 kgs of mango costs Rs186, then what is the cost of 1 kg mango?

2) If 37.5 m cloths equally divided among 15 people what is the length that each will get?

3) A contractor distributes Rs 6241.5 among 73 labourers equally. What is the amount got by each one?

Divide the following

1) 25.5 ÷ 5  2) 42.6 ÷ 5  3) 135.6 ÷ 5  4) 235.8 ÷ 5

Competency 6

Possible mistakes done by students:

- they may add both numerator and denominator
- They may add the fraction without converting them to common denominator

Remedial Teaching

- First tell them to identify the common denominator and then tell them to add only the numerators and explain them the change happening if we add the denominator.
- Giving more drill sums regarding the addition by converting them to common denominator

Activities for developing the sub competencies

Group based presentations

Using thermocol circular shapes

1) Addition of fractions having common denominator.

A circle is divided in to four parts then taken each part (1/4) and adding.
\[ \frac{1}{4} + \frac{1}{4} = 1 + \frac{1}{4} = \frac{2}{4} = \frac{1}{2} \]

\[ \frac{1}{4} + \frac{1}{4} = \frac{1}{4} + \frac{1}{4} + \frac{1}{4} = \frac{3}{4} \]

2) Addition of fractions having uncommon denominator.

\[ \frac{1}{4} + \frac{1}{2} = \frac{1}{4} + \frac{2}{4} = \frac{1}{2} \times \frac{2}{2} = \frac{2}{4} = 1 + \frac{2}{4} = \frac{3}{4} \]

Eg. \[ \frac{1}{8} + \frac{4}{8} = \frac{1}{8} + \frac{4}{8} = \frac{5}{8} \]

Note: using cardboard cuttings of circles we can teach the concept effectively.
Similarly

\[ \begin{array}{cc}
\frac{21}{4} & + \frac{41}{2} = \frac{33}{4}
\end{array} \]

\[ \frac{21}{4} + \frac{11}{2} = (2+1) \frac{1}{4} + \frac{1}{2} \] (adding whole number and function separately)

\[ = 3\left(\frac{1}{4} + \frac{2}{4}\right) \] converting the denominator into common denominator).

\[ = 3 + \frac{3}{4} = \frac{3}{4} \]

Drill sums:

1) Ramu drinks \( \frac{1}{2} \) lt milk and his brother drink \( \frac{1}{4} \) lt daily than what is the total amount of milk drunk by them?

2) Shubha at \( 2\frac{1}{4} \) dosa and her father ate \( 4\frac{1}{4} \) dosa in the morning. What is the total dosa ate by them?

3) Abdulla everyday play \( 1\frac{1}{4} \) hours at home, \( 1\frac{1}{4} \) hrs at school and \( 1\frac{1}{2} \) hrs at home in the evening. What is the total time he play in a day?

4) Ramu’s mother gave \( 1\frac{3}{4} \) apple to Ramu, \( 1\frac{1}{4} \) apple to his friend Suresh, \( 1\frac{1}{2} \) apple to his friend Shamu then what is the total apple given to them?
Add the following

1) \( \frac{2}{5} + \frac{3}{5} \)  
2) \( \frac{1}{6} + \frac{2}{3} \)  
3) \( \frac{3}{7} + \frac{4}{7} \)  
4) \( \frac{5}{13} + \frac{8}{13} \)  
5) \( \frac{1}{4} + \frac{2}{1}{\frac{1}{2}} \)  
6) \( \frac{2}{4} + \frac{3}{4} \)  
7) \( 5 \times \frac{1}{2} + 5 \times \frac{1}{4} \)  
8) \( \frac{3}{4} + 2 \times \frac{3}{4} \)  
9) \( \frac{1}{4} + \frac{3}{4} \)  
10) \( 5 + 3 \times \frac{1}{2} \)

2. Possible mistakes done by students:

- They may subtract both numerator and denominator.
- They may once again subtract the mixed fractions after subtracting the whole number and fraction separately.

**Remedial Teaching**

- Ask them to identify the common fraction and then ask them to subtract smaller number for larger one.
- You may teach them to convert mixed fraction into improper fraction and subtract.

**Activities for developing the sub competencies**

*Group based presentations*

*Using circular card boards or thermacoals*

1) Divide a circle into 4 equal parts apply blue color to three parts and Red color to one part.

If we write the whole colored portion it is \( \frac{4}{4} \). In that if we subtract the blue colored portion \( \frac{3}{4} \) we get the red colored portion.

\[ \text{i.e.} \quad \frac{4}{4} - \frac{3}{4} = \frac{4-3}{4} = \frac{1}{4} \]
Eg: \( \frac{2}{13} - \frac{1}{13} = \frac{2-1}{13} = \frac{1}{13} \)

2)

\[
\begin{array}{c}
\bigcirc \bigcirc \bigtriangleup \\
- \bigcirc \bigtriangleup = \bigcirc \bigtriangleup \\
\end{array}
\]

\[
\begin{array}{ccc}
2 \frac{1}{2} & 1 \frac{1}{4} & 1 \frac{1}{4} \\
\end{array}
\]

\[
(2-1) + \frac{1}{2} - \frac{1}{4}
\]

converting it into common denominator.

\[
(2-1) + \frac{2}{4} - \frac{1}{4}
\]

\[
1 + \frac{2}{4} - \frac{1}{4} = 1 \frac{1}{4}
\]

Drill sums:

1) Suhas has 4½Rs. If he gives 2¼Rs to his brother then what is the remaining money?

2) Sham’s cow gives 11½ ltr milk per day. If he sells 9½ ltr milk what is the remaining milk with him?

3) In a land of area 3¾ acres, 1½ acres is used to cultivate banana. The remaining land to grow Areca plants. In what area araca plants are growing?

Subtract the following

1) \( \frac{2}{11} - \frac{1}{11} \) 2) \( \frac{5}{6} - \frac{1}{6} \) 3) \( \frac{5}{8} - \frac{3}{8} \) 4) \( \frac{3}{4} - 2 \frac{1}{4} \) 5) \( \frac{1}{4} - 3 \frac{1}{4} \) 6) \( 3 \frac{1}{2} - 1 \) 7) \( 5 \frac{3}{4} - 2 \frac{1}{4} \)
3. Possible mistakes done by students:

- After multiplying they may not write it in simple form
- They may subtract when we say part of a part

Remedial teaching:

- Similarly like in equivalent-fractions ask them to divide numerator and denominator with the same number.
- When we say part of a part then give more drill sum of that sort.

Activities for developing the sub competencies

Group based presentations

Using circular card boards or thermacoals

Prepare 10 half circles of same radius using cardboard then give each to one student and tell them to find out how many circles are formed as 2 for one circle. Then explain them that multiplication is repeated addition ie

1) 

\[
\frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2}
\]
\[
\frac{1}{2} \times 10 = \frac{1}{2} \times 10 \times \frac{1}{2} = \frac{10}{2} \times \frac{2}{2} = \frac{5}{1} = 5 \text{ circles}
\]

2) Shekar has \(\frac{1}{2}\) apple if he ate half of it what is the part that he ate?

In the four parts of the circle 2 parts \((1/2)\) is blue colored. The half of the blue part is red colored. Totally \(\frac{1}{4}\) of the circle is red colored.

Drilling problems:

1) In a class 80 students are there, among them \(\frac{3}{4}\) of the students got first class

2) In mathematics . then what is the number of students getting first class?

3) In a hostel if \(\frac{1}{10}\) kg rice is needed to prepare meals for a child, what is the amount of rice required for 40 students?

4) In a farm there are 90 trees if \(\frac{2}{3}\) are mango trees what is the number of mango trees are there?

5) Raju had 8 marbles . he distributed \(\frac{3}{4}\) of them among his friends what is the number of marbles he distributed?

6) Krishna has \(\frac{3}{4}\) of a guava fruit if he eats \(\frac{1}{4}\) of it how much is remaining?
Multiply the following

1) \( \frac{4}{5} \times 30 \)  
2) \( \frac{3}{7} \times 21 \)  
3) \( 20 \times \frac{3}{4} \)  
4) \( 18 \times \frac{5}{6} \)  
5) \( \frac{3}{4} \times \frac{1}{2} \)  
6) \( \frac{3}{5} \times \frac{3}{4} \)  
7) \( \frac{5}{12} \times \frac{1}{2} \)  
8) \( \frac{2}{3} \times \frac{3}{10} \)

4. Possible mistakes committed by students:

- While dividing they may multiply without taking the reciprocal.
- They may write the reciprocal of dividend than that of divisor.
- They may write the reciprocal of both dividend and divisor

**Remedial Teaching:**

- Explain them that division means multiplying the dividend with the reciprocal of divisor.
- If we write the reciprocal of dividend show them the difference of value we get.
- Ask them to write the reciprocal of only the divisor and give more drilling sums

**Activities for developing the sub competencies**

**Group based presentations**

**Using Rectangular strips**

Divide \( \frac{1}{4} \) by 2

\[
\begin{array}{c|c|c}
\hline
\frac{1}{4} & & 1 \frac{1}{8} \\
\hline
\end{array}
\]
Take a rectangular strip. Divide it into 4 parts. Apply yellow color to one part. It will become $\frac{1}{4}$ th. Divide every $\frac{1}{4}$ into 2 equal parts and apply red color to one of the resulting part, then red colored portion will become $\frac{1}{8}$ part. i.e $\frac{1}{4} ÷ 2 = \frac{1}{8}$ or $\frac{1}{2}$ (is reciprocal of 2)

Note: When you interchange numerator and denominator, you get the reciprocal of the number. Explain this to children.

3) $\frac{5}{8} ÷ \frac{1}{4}$

$= \frac{5}{8} \times \frac{4}{1}$

$= \frac{20}{8}$

$= 20 ÷ 4 = \frac{5}{2} = 2\frac{1}{2}$

Note: explain the students about converting $\frac{5}{2}$ into mixed fractions

Drilling Problems:

1) If we distribute 8 kg of grapes as $\frac{1}{4}$ kg per each person, to how many people we can distribute it?

2) There is 25 kgs of rice at home, daily if $\frac{3}{4}$ kg is spent, then how many days are required to spend the total rice.
3) If we distribute 40 marbles in the ratio \( \frac{4}{5} \) then how many people we can distribute?

Divide the following:

1) \( \frac{3}{8} \div 12 \)  
2) \( \frac{2}{5} \div 10 \)  
3) \( 8 \div \frac{2}{3} \)  
4) \( 15 \div \frac{3}{5} \)

5) \( \frac{2}{4} \div \frac{1}{8} \)  
6) \( \frac{3}{12} \div \frac{24}{15} \)  
7) \( \frac{1}{2} \div \frac{1}{4} \)

**Competency 7**

Possible mistakes committed by students

While measuring/reading angles of 60 degree they may measure/read 120 degrees wrongly.

*Remedial Teaching:*

Explain them that recognize the degrees in the protractor from left side while measuring angles from left side with the help of protractor and observe degree readings on the protractor from right side when measuring angle from right side.
Activities for developing the sub competencies

Group based involvemental

Using circular piece of paper

Angles

Activity making a degree clock

1. cut a circle out of paper

2. fold it into half

3. Fold it once gain in to a quarter

4. fold it once more

5. Open the paper. You will see lines like this

6. now mark $0^\circ, 45^\circ, 90^\circ$ and $180^\circ$ as shown
7. place it on an old card

8. from the centre draw one hand

9. Make a red hand with a thick paper and fix it in to the center with a drawing pin, so that it is free to move.

Your degree clock is ready

10. Use your degree clock to measure the right angle of your pencil box ------ is the measure of the right angle

11. can you guess how many degrees is the angle which is ----- (90° in called right angle)

12. \( \frac{1}{2} \) of a right angle ----------------

13. \( \frac{1}{3} \) of a right angle-------------

14. 2 times of a right angle ---------------
Activity

Preparing a protractor

Do This

1. Cut out a circular shape using a bangle or take a circular sheet of about the same size.

2. Fold it twice to get a shape as shown. This is called a quadrant.

3. Open it out. You will find a semi-circle with a fold in the middle. Mark 90° on the fold.

4. Fold the semicircle to reach the quadrant. Now fold the quadrant once more as shown. The angle is half of 90° i.e. 45°.

5. Open it out now. Two folds appear on each side. What is the angle upto the first new line? Write 45° on the first fold to the left of the base line.

6. The fold on the other side would be 90° + 45° = 135°.
7. Fold the paper again up to 45° (half of the quadrant). Now make half of this. The first fold to the left of the base line now is half of 45° i.e. \(22\frac{1}{2}^\circ\). The angle on the left of 135° would be \(157-\frac{1}{2}^\circ\).

You have got a ready device to measure angles. This is an approximate protractor.

Activity

**Preparing RA-tester**

Take a piece of Paper  
Fold it somewhere in the middle  
Fold again the straight edge. Your tester is Ready

Observe your improvised 'right-angle-tester'. [Shall we call it RA tester?] Does one edge end up straight on the other?

Suppose any shape with corners is given. You can use your RA tester to test the angle at the corners.

Do the edges match with the angles of a paper? If yes, it indicates a right angle.
Other names

An angle smaller than a right angle is called an acute angle. Theses are acute angles.

Do you see that each one of them is less than one-fourth of a revolutions? Examine them with your RA tester.

If an angle is larger than a right angle, but less than a straight angle, it is called an obtuse angle. These are obtuse angles.

House Book

Your RA tester may help to examine.

Identify the obtuse angels in the previous examples too.

A reflex angle is larger that a straight angle.

It looks like this. (See the angle mark)
2. Possible mistakes committed by students

- They may commit mistakes while measuring angles.
- Tell the sides by single letter
- Commit mistakes while naming the angles

Remedial Teaching

- Practice them how to use protractors effectively.
- Explain them to recognize the sides by two letters.
- First tell them to identify the angles through single letter or three letters along with symbols and confirm them through various examples.

Using square sheet of paper

Activities for developing the sub competencies

Group based involvemental

Angle in a paper Aeroplane

1. Take a square sheet of paper

2. Fold it in half and open it

3. Fold the corners to the centre. Your paper looks like this

4. Fold the green triangle such that P touches Q
5. Fold the top two corners of main rectangle along the dotted lines

6. Your paper will look like this. There is a small triangle in the picture which has to be folded up.

7. Turn it over and fold it in half along the dotted line

8. Now, to make a wing fold the yellow edge over the red edge.

9. Turn of and do the same on the other side as well

10. Your plane is ready to fly. How well does it fly? name the angles as A, B, and C

Find the angles of $45^\circ$ and $90^\circ$ when you open your plane.

*Group based involvemental*

*Use of card board/ thermocoals*

*Angles in names*

You know, there are angles in the letters of our names too.
In my name there are 11 right angles there are also 10 angles less than a right angle

Activities for developing the sub competencies

Group based involvemental

Using square sheet of paper

Activity

a) Take a square sheet of paper.

b) Fold it in half.

c) Fold it once more and press it.

d) Open the last fold so that the sheet is folded in half.

e) Take one corner and fold it to meet the dotted line.

On the paper you will find lines making a right angle, an angle less than a right angle and an angle more than a right angle. At the same time name the angles through letters A,B,and C.

Look for each of the angles and mark them with different colours.
Activity

Activity using mathematics books

a) Put 10 Math – Magic books on top of each other. Keep one book slanting make a slide

b) Now do this with six books.

Roll a ball from the top. From which slide does the ball roll down faster?

Which slide has the smaller angle?

Activity

Using match sticks

. Changing Shapes

➢ Things you need – used (or new) matchsticks.

Piece of rubber tube used in cycle valves.

i. Clean the black end of the matchsticks.

ii. Cut small pieces of the tube (about 1 cm long)

Push two matchsticks into each end of a tube piece.
iii. Add more matchsticks to from a triangle.

Now make these 4, 5, 6 sided shapes by using tube pieces and matchsticks.

*a* Find out how many angles are there in each of these shapes. Mark them.

Now push each shape downwards with the tip of your finger.

Does the angle change when pushed down by the finger?

*a* Find out and write your results in the table given.
APPENDIX – II

TEACHER’S QUESTIONNAIRE

Sir,

I have carried out a research for my Ph.D degree on the topic, “Diagnosis Based Remediation on Attainment of MLL in Mathematics among V Standard Students from Shimoga district”. Here three questionnaires have been constructed for the purpose of the research. The first questionnaire is for the teachers, second for the students to gather their personal informations and the third questionnaire is set to know the attainment levels of students in first semester mathematical competencies for class V. This questionnaire consists of 24 questions followed by spaces provided for writing answers. Kindly convince the students to write the answers for all the questions in the space provided for answering the question, and also I humbly seek your full support and cooperation to complete my research in time.

Yours sincerely

Prakasha, K.

Dear Students,

This test is designed in an attempt to ascertain how well you have mastered mathematical competencies of first semester. You are required to answer given questions in a space provided below every question. Each question carries one mark. You need to give your honest response. Your valuable response will be appreciated and would be kept confidential. Hence I expect you to write answers in a given space to get clarity on your attainment of mastery on MLL competencies in Mathematics.
Teachers’ Questionnaire

1. Name of the Teacher:

2. School name and address:

3. Age:

4. Gender: Male / Female

5. Educational Qualifications: Degree / Certificate:

6. Specialisation: Science / Arts / Commerce

7. School type: Single Teacher / Two Teachers / Multi-
Teachers (Multigrade / Monograde):

8. Location of your school: City / Corporation / Municipal / Rural

9. Number of teachers who teach V standard:

10. Your teaching subjects:

11. Your teaching classes:
APPENDIX – III

STUDENT’S QUESTIONNAIRE

1) Name :
2) Age : _______ Year _________ Months.
3) Local address of the student : Urban / Rural
4) Educational Qualification of
   a) Father    b) Mother
5) a) Father’s occupation
     b) Mother’s occupation
6) Source of Income for the family : Business / Property / Agriculture / Govt. Job / Self Employment / Other
7) Student is a first generation learner : Yes / No.
8) Birth order of the student :
9) How many brothers : Elder brothers : Younger brothers :
10) How many sisters : Elder Sisters : Younger sisters :
11) Are your brothers pursuing Education? Yes / No.
12) Which standard are they studying.
13) Are your sisters pursuing Education? Yes / No
14) Which standard are they studying?
15) Do you have all the text books ? Yes / No
16) If No. which books are not there ?
17) Put (✓) mark in front of appropriate place.

<table>
<thead>
<tr>
<th>Subject</th>
<th>Like</th>
<th>Dislike</th>
<th>Difficult</th>
<th>Easy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kannada</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mathematics</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Science</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Science</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
18) Your favorite subject:
19) Subject you don’t like:
20) How much time in a week do you spare for different subjects?

<table>
<thead>
<tr>
<th>Subject</th>
<th>Kannada</th>
<th>Mathematics</th>
<th>Social Science</th>
<th>Science</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

21) How often you study the following subjects?

<table>
<thead>
<tr>
<th>Subject</th>
<th>Same day</th>
<th>Next day</th>
<th>Meet in a weak</th>
<th>in Tuition</th>
<th>Before Exams</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kannada</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mathematics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Science</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

22) How many hours do you study independently at home?

23) Do you go for tuition lessons? Yes / No

24) If you are going, How many hours?
   One hour a day / two hours a day / weekly three hours

25) Which subjects do you study daily?

26) Who does assist you for studies at home?
   Father / mother / both / brothers / sisters / others

27) For which subject do you need assistance

28) Which sort of assistance do you expect?
   a) In doing the home work.
   b) Help in doing difficult work

29) Write the name and address of the school where you passed your 4th standard.
APPENDIX – IV

STUDENT’S QUESTION PAPER

Pre-test

Mathematics: V Standard Question answer paper.

School Name :  
Students Name :  
Gender : Male / Female  
Date : 08.01.2007  Time 75 Min.  
Place :  

City / Town / Rural :  
Roll No. :  
Standard :  
Supervisor’s sign :  

Note: 1) This is answer sheet with question.
2) Write the answers in the space given in question paper.

1) In the Indian system, what is the name of the seventh place?  
2) Write the number equivalent to this expansion  
   \[3 \times 10000 + 5 \times 1000 + 0 \times 100 + 7 \times 10 + 2 \times 1\]  
3) Write these numbers in descending order  
   41,52,378, 41,52,738, 41,52,837, 41,52,387  
4) 3, 7, 0, 5, 1 (each digit to be used only once) write the smallest possible number using the digits.  
5) What is the number got when 99999 is approximated to Tenth place.  
6) 17, 12, 13, 16, 19 write these numbers in Hindu-Arabic style.
7) In the clock, Hour, Minute, Second hand are on which numbers.
   hour hand : _____________
   Minute hand : _____________
   Second hand : _____________

8) Which is the smallest number to be added to the numerator of 4/5 to get an improper fraction?

9) As shown in the figure cut the watermelon into 8 equal parts. If you eat $\frac{3}{8}$ of it and give the remaining to your brother, what is the share got by your brother?

10) Among the 60 students of your class, If $\frac{2}{3}$ are girls then what is the number of boys?

11) If we distribute $3 \frac{3}{4}$ ltr milk equally among 3 people, how much milk does everyone get?

12) 1 unit + 3 tenths + 5 hundredths
   write it in decimal form

13) If 9 is at hundredth place in a decimal number what is its place value?

14) 10.1, 0.01, 0.10, 101.00 write these in descending order
   Descending order : ______, ______, ________, ________
15) If 25 students of a class join together and give a Mahatma Gandhi’s photo costing Rs.87.50 to the school then how much money every student has to contribute.

16) The money you have is shown in the abacus below. If you spend Rs.4.40 then how much money is remaining with you?

![Abacus Image]

17) Fill in the blanks with appropriate numbers

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Decimal</th>
<th>Fraction</th>
</tr>
</thead>
<tbody>
<tr>
<td>40%</td>
<td>0.4</td>
<td></td>
</tr>
<tr>
<td>60%</td>
<td></td>
<td>3/5</td>
</tr>
<tr>
<td>0.1</td>
<td></td>
<td>1/10</td>
</tr>
</tbody>
</table>

18) Convert 7025 gm into kg.

19) If you buy 3 post cards for 50 Ps each and 4 inland letters for Re 1. Each, What is the total money you have to pay?

20) If a rope of 38.4 m is divided into 6 equal parts, what is the length of each piece?

21) You are a provisional store owner. Check the bill produced in your shop. If any mistakes are there correct it.
Vasant provisional stores

Name :  Sumitra

Date :  01.01.2007

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Details</th>
<th>Quantity</th>
<th>Rate</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Sugar</td>
<td>5 Kg</td>
<td>20.00</td>
<td>100.00</td>
</tr>
<tr>
<td>2</td>
<td>Rice</td>
<td>10 Kg</td>
<td>15.00</td>
<td>100.00</td>
</tr>
<tr>
<td>3</td>
<td>Jaggary</td>
<td>2 Kg</td>
<td>15.00</td>
<td>30.00</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td></td>
<td></td>
<td>230.00</td>
</tr>
</tbody>
</table>

Two hundred and thirty Rupees only.
Place :
Signature :

22) You are facing East. If you turn left towards North, then what is the angle of the turn?

23) Draw an obtuse angle without the help of a protractor.

24) What type of an angle is angle C.

A

B

C
ANSWER KEY

1) Ten lakh
2) 35, 072
3) 41,52,837, 41,52,738, 41,52,387, 41,52,378
4) 01357 or 1357
5) 1,00,000
6) 17, 12, 13, 16, 19
7) Time Hour - VIII (8)
   Minute – XII (12)
   Second – VI (6)
8) 1
9) 5/8
10) Total students in class = 60
    Number of girls = 2/3 part
    ∴ Number of girls = 60 x 2/3 = 20 x 2 = 40
    Number of boys = 60 – 40 = 20
11) Total milk = 3 3/3 ltr.
    Number of people sharing the milk = 3
    Quantity of milk each gets = \( \frac{3\cdot\frac{3}{4}}{3} = \frac{15}{4} \cdot \frac{1}{3} = \frac{5}{4} = 1 \frac{1}{4} \)
12) 1 + 0.3 + 0.05 = 1.35
13) 0.09
14) 101.00, 10.1, 0.10, 0.01
15) Total Number of students in class = 25
    Cost of the photo = Rs. 87.50
    Money share of every one: 87.50 ÷25 = Rs.3.50
    Or
    Money share of every one = 3.50
16) Money I am having = 43.20
    Money I spend     =  4.40
    :. Remaining money = 38.80

17) 

<table>
<thead>
<tr>
<th>%</th>
<th>Decimals</th>
<th>Fraction</th>
</tr>
</thead>
<tbody>
<tr>
<td>40%</td>
<td>0.4</td>
<td>2/5</td>
</tr>
<tr>
<td>60%</td>
<td>0.6</td>
<td>3/5</td>
</tr>
<tr>
<td>10%</td>
<td>0.1</td>
<td>1/10</td>
</tr>
</tbody>
</table>

Give full marks if two are correct.

18) 7.025 Kg

19) Cost of 3 post cards = 0.50 x 3 = 1.50 Rs
    Cost of 4 inland letters = 1 x 4 = 4 Rs.
    Total money to be paid = 5.50 Rs.

20) Length of the rope = 38.4 meter
    No. of equal parts = 6
    Length of every part = 38.4 ÷ 6 = 6.4 m

21) Vasanth Provision stores.

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Details</th>
<th>Quantities</th>
<th>Rate</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Sugar</td>
<td>5 Kg</td>
<td>20.00</td>
<td>100.00</td>
</tr>
<tr>
<td>2</td>
<td>Rice</td>
<td>10 Kg</td>
<td>15.00</td>
<td>150.00</td>
</tr>
<tr>
<td>3</td>
<td>Jaggary</td>
<td>2 Kg</td>
<td>15.00</td>
<td>30.00</td>
</tr>
</tbody>
</table>

Total 280.00

Ruppees Two hundred and eighty only.

Place:                                             Signature

Give full marks if two are correct.

22) Right angle or 90°.

24) Acute angle.
<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Post test</strong></td>
<td></td>
</tr>
<tr>
<td><strong>School name</strong></td>
<td>Roll no :</td>
</tr>
<tr>
<td>Student’s name</td>
<td>Class :</td>
</tr>
<tr>
<td>Gender: Male/ Female</td>
<td>Time : 45 min</td>
</tr>
</tbody>
</table>

Note: this is question answer paper

Write the answers in the space given

1. Writ one lakh one thousand eleven in numeral form

2. Elaborate (Expand) 908706 according to place value

3. 32,15,203, 32,15,302, 32,15,032, 32,14,320, write these number in ascending order.

4. 5,7,8,0, using these numbers only once make the largest possible number

5. Approximate 974 and 497 to the tens place and then estimate their sum to the hundreds place

6. One thousand two hundred thirty four write this using Kannada digits.

7. Write the numbers 1 to 10 in Roman system
8. 3/4, 2/3, 4/5, 7/6, which fraction does not belong to the group

9. The length of the bamboo stick in 3 ¾ cm. If we cut 1 ¼ cm and remove what is the length of the remaining stick?

10. To prepare 1 cup of coffee ½ cup milk is required. How much milk is needed to prepare 8 cups of coffee?

11. If 3 ½ Rs is distributed equally among 14 people what is the share got by each one?

12. See the picture and write the shaded part in decimal form

```
[Diagram of shaded portions]
```

13. 7.634 here what is the place value of the digit 3.

14. Write the shaded portion in decimal form and write them in ascending order.

```
[Diagram of shaded portions]
```
15. In a school after distributing 50.75 m cloth 5.25 m cloth is remaining. What was the original length of cloth?

16. If you have 5 coins of 50 ps and 4 coins of 25 ps what is the total money with you?

17. Fill in the blanks with appropriate number

<table>
<thead>
<tr>
<th>Decimal</th>
<th>Fraction</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.50</td>
<td>½</td>
<td>-</td>
</tr>
<tr>
<td>0.25</td>
<td>-</td>
<td>25%</td>
</tr>
<tr>
<td>-</td>
<td>¾</td>
<td>75%</td>
</tr>
</tbody>
</table>

18. 6 Rs + 50 Ps + 75 Ps = _______ paise?

19. In a water tank 575 ltr water can be filled. What is the remaining capacity of the tank if 500 ltr water is filled?

20. Cost of one book is Rs 11.75 then what is the cost of 11 books?

21. Observe the bill carefully and fill in the blanks and correct it.

<table>
<thead>
<tr>
<th>Sl. No</th>
<th>Details</th>
<th>Quantities</th>
<th>Rate</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>100 page note book pen pencil</td>
<td>4</td>
<td>9</td>
<td>20.00</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>2</td>
<td>10</td>
<td>4.00</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td><strong>60.00</strong></td>
</tr>
</tbody>
</table>

Total: sixty rupees only.
22. In this triangle \( \angle C \) is which angle

23. Which angle is formed between the hands of this clock

24. Using protractor make a 90 angle
ANSWER KEY

Mathematics V standard Answer key

1. 1,01,011
2. 9,00,000+0+8,000+700+0+6,
3. 32,14,320, 32,15,032, 32,15,203, 32,15,302
4. 8,750
5. 974 approximate to tens place = 970
   497 approximate to tens place = 500
   Total (sum) =1,470
   approximate to hundreds place =1,500

6. 1234
7. 1=I, 2=II,3=III,4=IV,5=V,6=VI,7VII, 8VIII, 9IX,10=X
8. 7/6
9. Length of bamboo stick = 3 ¾ cm = 15/4
   Length of stick removed = 1 ¼ cm = 5/4
   Remaining length of the stick = 15/4 - 5/4
   10/4 = 5/2 = 2 1/2 cm
   (if answer is written directly consider it as correct answer)
10. Milk required to prepare 1 cup of coffee = 1/2 cup
    ∴ Milk required for 8 cups of coffee = 1/2 x 8 = 4 cups
11. Total money = 3 ½ Rs = 7/2 Rs
    No of people to be distributed = 14
    Share obtained by each = 7/2 ÷ 14 = 7/2 x 1/14 = Rs 1/4
12. 0.4
13. 0.03
14. 0.1, 0.3, 0.4, 0.5
15. Distributed cloth = 50.75m
   Remaining cloth = 5.25m
   Total cloth = 56.00m
16. 50ps coins = 5 \Rightarrow 0.5 \times 5 = Rs 2.50
    25ps coins = 4 \Rightarrow 0.25 \times 4 = Re 1.00
    Total money \Rightarrow Rs 3.50
17.
   Decimal  Fraction  Percentage
   \hline
   0.50     1/2      50%  \\
   .25      1/4      25%  \\
   0.75     3/4      75%  \\
18. Rs 600 + Rs 50 + Rs 75 = Rs 725
19. Capacity of tank = 575 l.
    Water filled = 500 l
    Water still can be filled = 75 l
20. Rate of one book = Rs 11.75
    Rate of one book = 11.75 \times 11
    = Rs 129.25
21. Saraswathi book centre

Name : Sujaya                                               Date : 1/1/2006

<table>
<thead>
<tr>
<th>Sl no</th>
<th>Details</th>
<th>Quantities</th>
<th>Rate</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>100page</td>
<td>4</td>
<td>9</td>
<td>36.00</td>
</tr>
<tr>
<td></td>
<td>Not book</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Pen</td>
<td>2</td>
<td>10</td>
<td>20.00</td>
</tr>
<tr>
<td>3</td>
<td>pencil</td>
<td>2</td>
<td>2</td>
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</tr>
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</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td>60.00</td>
</tr>
</tbody>
</table>

Total : sixty rupees only

22. Acute angle
23. Obtuse angle
24.

A

B

C
APPENDIX – V

TEACHER’S QUESTIONNAIRE
(KANNADA VERSION)

‘Diagnosis based Remediation on Attainment of MLL in Mathematics among V Standard Students from Shimoga District’

(ആದിവിജയം സംസ്ഥാനത്തിന്റെയും പ്രദേശത്തെയും പ്രക്രിയകളിൽ ഉള്ള മികച്ച ക്ഷേമതക്കാരിനു വഴി മതി പ്രോസസ്സിൽ പ്രയോജനമുള്ള സമയത്തിൽ നിലനിൽപ്പെടുന്ന നോട്ടങ്ങൾ പ്രമാണമാക്കാനുള്ള പ്രക്രിയകൾക്കാണ് ധാരാളം പ്രാധാന്യം.

(ശുദ്ധി)

(ശുദ്ധി)

(ശുദ്ധി)

(ശുദ്ധി)

(ശുദ്ധി)

XCV
1. ಇತಿಹಾಸ ಅಂಶವು :

2. ದೊಡ್ಡ ಸಾರಾಂಶ ಮಾಹಿತಿ ವಿವರಣೆ :

3. ರಚನಾವಳಿ :

4. ವಿಷಯವಿನ ವಿವರವು :

5. ದೊಡ್ಡ ವಿಷಯ :

6. ದೊಡ್ಡ ಮಹಾತ್ಮ ಸಾರಾಂಶ ಸಂಪಾದನೆ :

7. ಉಪನ್ಯಾಸ / ಕವಿತೆ / ಆಧುನಿಕ / ರಾಷ್ಟ್ರೀಯ :

8. ನಿಯಂತ್ರಣ ವಿಷಯವಿನ ಮಹಾತ್ಮ ಇತಿಹಾಸ ಸಂಪಾದನೆ :

9. ನಿಯಂತ್ರಣ ವಿಷಯವಿನ ಮಹಾತ್ಮ ಅಂಶವಿನ ಸಂಪಾದನೆ :
APPENDIX – VI

STUDENT’S QUESTIONNAIRE
(KANNADA VERSION)

1. ಅನೇಕ:

2. ಎಂಬತ್ತು : __________ ಎಂಬತ್ತು __________ ಎಂಬತ್ತು __________

3. ಮಿಶ್ರಧಾರೆ ಸುಂದರಿತಿ ಮಾತ್ರ : ಬುದ್ದು

4. ಮಿಶ್ರಧಾರೆ :  ಎ) ಜಳಸಿ : ಎ) ಜಳಸಿ:

5. ಎ) ಜಳಸಿ ಜಳಸಿಗಿರುತ್ತದೆ :
   ಎ) ಜಳಸಿ ಜಳಸಿಗಿರುತ್ತದೆ :

6. ಚಿತ್ರಪಟ್ಟಣ ಚಟುವಟಿಕೆ ಚಟುವಟಿಕೆ : ಮಾರುಕಾರ : ಮಿಶ್ರಧಾರೆ ಸಾಧನ : ಸ್ವಾಧೀನ
   : ಸ್ವತನ್ತು ಜಳಸಿಗಿರುತ್ತದೆ / ಸ್ವತನ್ತು ಜಳಸಿಗಿರುತ್ತದೆ / ಸ್ವತನ್ತು ಜಳಸಿಗಿರುತ್ತದೆ

7. ಮಿಶ್ರಧಾರೆ ಚಟುವಟಿಕೆ ಚಟುವಟಿಕೆ ಚಟುವಟಿಕೆ ಚಟುವಟಿಕೆ ಚಟುವಟಿಕೆ: ಸ್ವತನ್ತು : ಬುದ್ದು

8. ಮಿಶ್ರಧಾರೆ ಚಟುವಟಿಕೆ ಚಟುವಟಿಕೆ ಚಟುವಟಿಕೆ ಚಟುವಟಿಕೆ: ಸ್ವತನ್ತು : ಬುದ್ದು

9. ಎ) ಬಿಡಿ ಬಿಡಿ ಬಿಡಿ ಬಿಡಿ ಬಿಡಿ : ಸ್ವತನ್ತು: ಸ್ವತನ್ತು

10. ಎ) ಬಿಡಿ ಬಿಡಿ ಬಿಡಿ ಬಿಡಿ ಬಿಡಿ : ಸ್ವತನ್ತು: ಸ್ವತನ್ತು

11. ಎ) ಬಿಡಿ ಬಿಡಿ ಬಿಡಿ ಬಿಡಿ ಬಿಡಿ: ಸ್ವತನ್ತು: ಬುದ್ದು

12. ಸ್ವತನ್ತು ಸ್ವತನ್ತು ಸ್ವತನ್ತು ಸ್ವತನ್ತು ಸ್ವತನ್ತು.

13. ಎ) ಬಿಡಿ ಬಿಡಿ ಬಿಡಿ ಬಿಡಿ ಬಿಡಿ: ಸ್ವತನ್ತು: ಬುದ್ದು

14. ಎ) ಬಿಡಿ ಬಿಡಿ ಬಿಡಿ ಬಿಡಿ ಬಿಡಿ: ಸ್ವತನ್ತು:

15. ಎ) ಬಿಡಿ ಬಿಡಿ ಬಿಡಿ ಬಿಡಿ ಬಿಡಿ: ಸ್ವತನ್ತು / ಬುದ್ದು

16. ಬುದ್ದು ಬುದ್ದು ಬುದ್ದು ಬುದ್ದು ಬುದ್ದು: ಸ್ವತನ್ತು / ಬುದ್ದು

17. ಪ್ರತ್ಯೇಕ ಹುದ್ದು (✓) ಪ್ರತ್ಯೇಕ ಹುದ್ದು ಪ್ರತ್ಯೇಕ
### 18. ನೀಡಿ, ಅಧಿಕಾರಿ ಸಂಖ್ಯೆ: 

### 19. ಅಂಕಿಸಿ, ಅಧಿಕಾರಿ ಸಂಖ್ಯೆ: 

### 20. ಅಂತರ್ಜಾತಿಯ ವಿಶೇಷಾರ್ಥಿಯಾಗಿ ಅಧಿಕಾರಿ ಸಂಖ್ಯೆ: 

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<tr>
<th>ಮಹದೆ</th>
<th>ಅಂಕ</th>
<th>ಅಧಿಕಾರಿ</th>
<th>ಚಿಲು</th>
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<th>ಲೋಪ</th>
<th>ಮಾಲ್ಯಾಂಗಳು</th>
<th>ಮಹದೆ</th>
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### 22. ಅಂತರ್ಜಾತಿಯ ವಿಶೇಷಾರ್ಥಿಯಾಗಿ ಅಧಿಕಾರಿ ಸಂಖ್ಯೆ: 

### 23. ಹಾಗಾದೆ, ಅಮದಾದಿ ವಿಶೇಷಾರ್ಥಿಯಾಗಿ ಅಧಿಕಾರಿ ಸಂಖ್ಯೆ: 

### 24. ಅಂತರ್ಜಾತಿಯ ವಿಶೇಷಾರ್ಥಿಯಾಗಿ ಅಧಿಕಾರಿ ಸಂಖ್ಯೆ: 

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<tr>
<th>ಲೋಪ</th>
<th>ಮಾಲ್ಯಾಂಗಳು</th>
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XCVIII
25. ರುಳಿಕೆಯ ಬೇರೆ ಪಾತ್ರ ಮಿಶ್ರಂ ವಂಗಿಸಿಸಬೇಕು ಎಷ್ಟುಕೂಡುದೇ?

26. ಸುಧ್ದರೈತಿ ಗ್ರೂಪ ಸುಧ್ದರೈತಿ ಪಾತ್ರ ಪರಿವಾರಗಳು ಅವರೊಂದಿಗೆ ಅನುಭವೆ: ಸಂಖ್ಯೆ: ತಿಂಗಣ.

27. ಪಾತ್ರ ಮಿಶ್ರಂ ಪಾತ್ರದ ಪ್ರತಿಯೊಂದು ಅಧಿಕಾರಿಯು ಎಷ್ಟುಕೂಡುದೇ?

28. ಪಾತ್ರ ಮಿಶ್ರಂ ಪಾತ್ರದ ಪ್ರತಿಯೊಂದು ಅಧಿಕಾರಿಯು ಎಷ್ಟುಕೂಡುದೇ?

   a) ಹಿಂದಿಗೆ ಪ್ರತಿಯೊಂದು ಅಧಿಕಾರಿಯು.

   b) ಸಂಖ್ಯೆ ಪ್ರತಿಯೊಂದು ಪ್ರತಿಯೊಂದು ಅಧಿಕಾರಿಯು.

29. ಪಾತ್ರ ಮಿಶ್ರಂ ಪಾತ್ರದ ಪ್ರತಿಯೊಂದು ಅಧಿಕಾರಿಯು ಅಧಿಕಾರಿಯು ಮಿಶ್ರಂ ಪ್ರತಿಯೊಂದು ಪರಿವಾರ.
APPENDIX – VII

STUDENT’S QUESTION PAPER
(KANNADA VERSION)

Pre test

ಇವರ ಅವಕಾಶದಲ್ಲಿ ಆರೋಗ್ಯ ಅಭ್ಯಸನ

<table>
<thead>
<tr>
<th>ದಿನಾಂಕ ಜನರು</th>
<th>ಸಂಖ್ಯ / ಗುಂಪು / ಅಂದರೆ</th>
</tr>
</thead>
<tbody>
<tr>
<td>ಹಿಂದುಗಳ ಜನರು</td>
<td>ಸೂಚಿ ಸಂಖ್ಯೆ</td>
</tr>
<tr>
<td>ಬಿರು: ನೀಮ್ಮ ಸೇರಿ ಅಂಶಗಳು</td>
<td></td>
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</tbody>
</table>

ನೋಡಿ:  i) ಒಂದು ಸುತ್ತು ಆರೋಗ್ಯ ಅಭ್ಯಸನದಂತೆ

ii) ಆರೋಗ್ಯ ಅಭ್ಯಸನದಂತೆ ತನ್ನರ ಆರೋಗ್ಯಕ್ಕಾಗಿ ವಿಜ್ಞಾನ ಸೂಚಿ ಬಳಸಿ ಮಾಡಬಹುದು.

1) ಎಲ್ಲಾದಿಂದ ಕ್ರಮವಾಗಿ ಸಂಖ್ಯೆಗಳಿಗೆ ಸೂಚಿ ಆಯಾಗುವ ಹೊಸ ಸೂಚಿಯ ಮಾಡಬಹುದು?

2) 3 x 10000 + 5 x 1000 + 0 x 100 + 7 x 10 + 2 x 1 ಹೊಸ ಸೂಚಿಯ ಮಾಡಬಹುದು.

3) 41,52,378, 41,52,738, 41,52,837, 41,52,387 ಹೊಸ ಸೂಚಿಯ ಮಾಡಬಹುದು.

4) 3, 7, 0, 5, 1 ಅವಕಾಶದ ವಾರ್ತೆಯಲ್ಲಿ ಅವರು ಸೂಕ್ಷ್ಮವಾಗಿ ಒಂದು ಚಿಕ್ಕ ಛಂದೊಂದಿಗೆ ತೀರಿಸಿ.

5) 99999 ರಣ್ಣು ಆಗಸ್ಟ್ ಕ್ರಿಸ್ತುತ ಫ್ರೆಂಚ್ ಬೋರ್ಡಿಂಗ್ ಮತ್ತು ಟೀಗಾರು ಎಕ್ಸ್ಟ್ರಾಮ್ ಸಂಕೇತಗಳ ಸೋಂಪೂರ್ಣ ರೀತಿಯಾದ ಅಂಕಣರ ಅಂಶಗಳಿಗಳು?

6) 17, 12, 13, 16, 19 ಅವಕಾಶದ ವಾರ್ತೆಯಲ್ಲಿ ಸೇರಿದೆ ಅಂಕಗಳು ಅಂಗಕ್ಕೆ ಒಂದು ಗೆಂಟಿಯಾಗಿ ಮಾರಬು.

7) ತಮ್ಮ, ವಿಮಾನ, ಕ್ಷೇತ್ರಗಳನ್ನು ವಿವರಿಸಿ ಚಿತ್ರಗಳ ಸಹಾಯದಿಂದ ಬೌದ್ಧಿಕ ಪರಿಮಾಣವಿಜ್ಜನ್ ಸಂಪೂರ್ಣ, ಮರಾಟದ.

![Clock Image]

ರಾತ್ರಿ ಲಾಂಬು:..........................

ವಿಮಾನ ಲಾಂಬು:..........................

ಕಾಯಿಲೆ ಲಾಂಬು:..........................

8) \( \frac{4}{5} \) ಅವಕಾಶದ ವಾರ್ತೆಯಲ್ಲಿ ಅವರು ವಾತಾವರಣ ವಾತಾವರಣ ಕಲ್ಲಿ ಮತ್ತು ಸೆಳಗಿಯ ಅಂಶಗಳಿಗಳು?

9) ಪ್ರತಿಯೊಂದು ಸ್ಥಳದಿಂದ ವಾಯುವ್ಯ ಅಂಕ ಮತ್ತು 8 ಸುಮಾರು ಬೇರೆಂದರ ಮತ್ತು \( \frac{3}{8} \) ಸುಮಾರು ಬೇರೆಂದರ ಹಸ್ತಾಕಾರದಿಂದ ಅಂಕಣ ಸೇರಿದೆ ಅಂಕಣ ಸೇರಿದೆ ಸೇರಿದೆ ಮತ್ತು ಒಂದು ಸ್ಥಳದಿಂದ?

![Circle Image]

10) \( \frac{1}{3} \) ವಿಮಾನದಲ್ಲಿ 60 ರೇಖೆಯನ್ನು \( \frac{2}{3} \) ಮತ್ತು ಅವಕಾಶದಿಂದಿರು ಅಂಕಣ ಸೋಂಪೂರ್ಣ?

11) \( \frac{3}{4} \) ಬೇರೆಂದರ ಅಂಶಗಳು ವಾರ್ತೆಯಲ್ಲಿ ಸಂಸ್ಥೆಯ ಅಂಶಗಳ ಸೇರಿದೆ ಅಂಶಗಳಿಗಳು ಇರಬಹುದು ಅಂಗದ ಅಂಶಗಳ?

12) 1 ವಿಮಾನ + 3 ರೇಖೆ + 5 ವಿಮಾನ ಅವಕಾಶದಿಂದಿರು ಅಂಗಾಕ್ಷರ.
13) 9 अंक वांछित करें। कृपया अंक लिखिए।

14) 10.1, 0.01, 0.10, 10.100 अंक प्रदान करें। तार्किक सारांश प्रदान करें।

अंक प्राप्त हैं: ................................ , ................................ , .......................... , ........................

15) कोणा मात्रा में 25 वर्ष बीता है। यदि 87.50 प्रतिशत दर से रुपये 100 करोड़ में संयुक्त होता है, तो इस संयुक्त में मूल्य एक लाख रुपये में कितना होगा?

16) एक बार जितने अंक में बोकरी की मात्रा बढ़ती है। अर्थात्, विक्रेता दर में 4.40 में एक विक्रेक्ट विक्रेता, फिर भी मात्रा क्या मात्रा होगा?

17) इस पुनः लेखन पर भारतीय विद्यालय संगठनकरण जांच:

<table>
<thead>
<tr>
<th>प्रतिशत</th>
<th>वरीयता</th>
<th>उपवरीयता</th>
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<tr>
<td>40%</td>
<td>0.4</td>
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<td>60%</td>
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<td>3/5</td>
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<tr>
<td>0.1</td>
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<td>1/10</td>
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18) 7025 एचओसीमु जितजीले अड्डाकर.

19) 50 सेकंड में 1.25 कि.मी. 3 वांछित है। यदि 1.25 कि.मी. 4 सेकंड में तभि तो 3 वांछित है। यदि 3 सेकंड में लागू है, तो मात्रा क्या होगा?
20) 38.4 ದಿನಾಂಕ ಕಸರುಗಳು - 6 ಗಂಟೆ ಅರೂಣ್ಣ್ಣ ವಾಣಿಜ್ಯ ಶಾಲೆ ಇಂಗ್ಲಿಂಗ್ ಅಭಿವೃದ್ಘ? 

21) ವಿದ್ಯಾವಿಧಿ, ಕೇಂದ್ರ ಸತ್ಯಾಯಿತೆ ವಿಧಾನ, ವಿದ್ಯಾವಿಧಿಯ ಕೇಂದ್ರ ಸತ್ಯಾಯಿತೆ ಪ್ರಖ್ಯಾತವಾದ ಎರಡರೆ ವಿದ್ಯಾವಿಧಿಗಳು ಆದಿಯಿಂದ. ಎರಡರೆ ವಿದ್ಯಾವಿಧಿಗಳು ಪ್ರಕಟಿಸಿ. ಅರ್ಜಿಸಿ ಕೇಂದ್ರ ಸತ್ಯಾಯಿತೆ 

ಜನ್ಮಾಂತರ : ಸಬ್ಬಾಬ್ಬು 

ಇಂದಾರು: 01.01.2007 

| ಸ.ರಂಜ | ಮಾರ್ಗಿ | ವಿದ್ಯಾವಿಧಿ | ಡಿ. ಡಾ. | ಬಣ್ಣ | ತೊಂದರೆ ನಾಲಕೆ | ತೊಂದರೆ ನಾಲಕೆ 
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<tr>
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<td>15.00</td>
<td>30.00</td>
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ಒಳಗೊಂಡಿರುವ ವಿದ್ಯಾವಿಧಿಗಳು, ಮೇಲೆ ಇದೆ 

ಷ್ಟು : ಸಂಪದ 

22) ಎರಡರೆ ಕರ್ಣು, ಕರ್ಣು ಕೇಂದ್ರ ಸತ್ಯಾಯಿತೆ ವಿದ್ಯಾವಿಧಿಯು ಎರಡರೆ ಕೇಂದ್ರ ಸತ್ಯಾಯಿತೆ ವಿದ್ಯಾವಿಧಿಗಳು ಎರಡರೆ? 

23) ಹಾಗೆಯಾದರೂ ಸತ್ಯಾಯಿತೆ ವಿದ್ಯಾವಿಧಿ ಎರಡರೆ ಕೇಂದ್ರ ಸತ್ಯಾಯಿತೆ ವಿದ್ಯಾವಿಧಿಗಳು? 

24) ತೀರ್ಥಾಂಗ, ⊿ ಅರೂಣ್ಣ್ಣ್ಣ ಸತ್ಯಾಯಿತೆ?
ANSWER KEY

1. ಸಂಖ್ಯೆಗಳು (ಸಂಖ್ಯೆಗಳು)

2. 35,072

3. 41,52,837, 41,52,387, 41,52,378

4. 01357 ಸಂಖ್ಯೆ 1357

5. 1,00,000

6. 17,12,13,16,19

7. ಅಂಕಗಳ - IV (8)

     ವಿಭಾಗ - XII (12)

     ಸ್ರೇಷ್ಠಾ ಅಂಕಗಳ - VIII (4)

8. 1

9. 5/8

10. ಸರಳ ಇತರ ಅಂಕಗಳು = 60

    ಅಂಕಗಳ ಸಂಖ್ಯೆ = 2/3 ಮೂಲಕ

    ಅಂಕಗಳ ಅಂಕಗಳ ಸಂಖ್ಯೆ = 60 X 2/3 = 20 X 2 = 40

    ಅಂಕಗಳ ಸಂಖ್ಯೆ = 60 - 40 = 20
11. \[ \frac{3}{4} \]

12. \[ 1 + 0.3 + 0.05 = 1.35 \]

13. \[ 0.09 \]

14. \[ 101.00, 10.0, 0.10, 0.01 \]

15. \[ 25 \]

\[ \text{हूँसिंह} \]

\[ \text{हूँसिंह} = 87.50 \]

\[ \text{हूँसिंह} = 87.50 \div 25 = 3.50 \]

\[ \text{हूँसिंह} = 3.50 \]

\[ \begin{array}{c|c}
25 & 87.50 \\
75 & \\
125 & \\
125 & \\
000 & \\
\end{array} \]

\[ \text{हूँसिंह} = 3.50 \]
16. संयुक्त अंतर = लघु. 43.20 लघु
अन्तर अंतराशय अंतर = 4.40 लघु
पण्य अंतर = लघु. 38.8 लघु

17.

<table>
<thead>
<tr>
<th>%</th>
<th>धार्मिकता</th>
<th>दोषमयीता</th>
</tr>
</thead>
<tbody>
<tr>
<td>40%</td>
<td>0.4</td>
<td>2/5</td>
</tr>
<tr>
<td>60%</td>
<td>0.6</td>
<td>3/5</td>
</tr>
<tr>
<td>10%</td>
<td>0.1</td>
<td>1/10</td>
</tr>
</tbody>
</table>

प्रतिवर्तन की जोड़ संक्रियाएँ लिखित अंतर

18. 7.025 लघु

19. 3 अंश संयुक्त अंतर = 0.50×3 = 1.50 लघु.

4 अंश संयुक्त अंतर = 1×4 = 4 लघु

भूप दोनों अंशबंधन अंतर = 5.50 लघु.

20. अंतर अंतर = 38.4 मिलिलगुण
भूप संयुक्त अंतर = 6
लघु अंतरिक्ष अंतर = 38.4÷6
= 6.4 मिलिलगुण
अंतर

<table>
<thead>
<tr>
<th>6</th>
<th>38.4</th>
</tr>
</thead>
<tbody>
<tr>
<td>36</td>
<td></td>
</tr>
<tr>
<td>24</td>
<td></td>
</tr>
<tr>
<td>24</td>
<td></td>
</tr>
<tr>
<td>00</td>
<td></td>
</tr>
</tbody>
</table>
21. ಸಂಖ್ಯೆ ಸಾಲಾ ಅಭಿವೃದ್ಧಿ

<table>
<thead>
<tr>
<th>ಸೂ.ಕಂ.</th>
<th>ವಸ್ತುವಿಕ್ಷೆ</th>
<th>ಸಂಖ್ಯೆ</th>
<th>ವಸ್ತುಸ್ವರೂಪ</th>
<th>ವಸ್ತುಸ್ವರೂಪ</th>
<th>ಸಂಖ್ಯೆ</th>
<th>ವಸ್ತುಸ್ವರೂಪ</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>ಸುತ್ತುತ್ತು</td>
<td>5</td>
<td>ವಸ್ತುಸ್ವರೂಪ</td>
<td>20.00</td>
<td>100.00</td>
<td>ಸುತ್ತುತ್ತು</td>
</tr>
<tr>
<td>2</td>
<td>ಕಲಿಮೆ</td>
<td>10</td>
<td>ವಸ್ತುಸ್ವರೂಪ</td>
<td>15.00</td>
<td>150.00</td>
<td>ಕಲಿಮೆ</td>
</tr>
<tr>
<td>3</td>
<td>ಕಲಿಮೆ</td>
<td>2</td>
<td>ವಸ್ತುಸ್ವರೂಪ</td>
<td>15.00</td>
<td>30.00</td>
<td>ಕಲಿಮೆ</td>
</tr>
</tbody>
</table>

ತೊಳಗೊಂಡಿದೆ ವಸ್ತುಸ್ವರೂಪ ಮೊದಲು ರೇಖೆ.

22. ವಸ್ತುಸ್ವರೂಪ

23. ಪ್ರಕಾರವಾಗಿ

24. A

\begin{center}
\begin{tikzpicture}
\draw [thick, ->] (0,0) -- (1,0) node [right] {C};
\draw [thick, ->] (0,0) -- (0,1) node [above] {B};
\end{tikzpicture}
\end{center}
Post test

हंगामा अंकन:       शुमला संख्या
मौजूदा प्रमाण:      तंगनी
संख्या:     90      संख्या: 45  मिनिट

महत्त्व:    अमीर संकेत, संकेत प्रमाणित.

सारांश:     अनुसार प्रमाण, संकेत प्रमाणित.

1. 808706 अंकमध्ये व्यापक + उपलब्ध अंकमध्ये अनुसार संख्या 45 मिनिट.

2. 32,15,203, 32,15,302, 32,15,032 32,14,320 संख्येंचे नंबर शॉमच्या मॉड्युल अंकविक्षिप्त.

3. 32,15,203, 32,15,302, 32,15,032, 32,14,320 संख्येंचे नंबर शॉमच्या मॉड्युल अंकविक्षिप्त.

पूर्ण संकेतः
---------------------------'------------------------------'---------------------------
4. 5, 7, 8, 0, ಸಾಮಾಜಿಕಕ್ರಮವನ್ನು ಅನುಸರಿಸಿ ಮಾಡಿ ಮಾಡಿ ಶೀರ್ಷೀಯ ಸ್ಥಾನಕ್ಕೆ ನೆಲೆಸಿ.

5. 974 ಮೇಳಾ 497 ಅರುಣಾಂಕ ಅನುಂತ ನಾರು ಶೆಬ್ಬಿಸಿ ಸ್ಥಳವನ್ನು ನೆಲೆಸಿ, ಮತ್ತು ಹೊರಬಣ್ಣ ಪ್ರಾಣಿಯು ಪ್ರಾಣಿಯ ಶೆಬ್ಬಿಸಿ ಅಧಿಸಿ ಮಾಡಿ.

6. ಮನೆ ಸಹಿಷ್ಣು ಮತ್ತು ಮನೆ ಮಾಡಿದ್ದಾಗ ಅಲ್ಲದೇ ಶಾಶ್ವತ ಸೂಚಿಸಿಬಳಿಕೆಯ ಮಾಡಿ.

7. 1 ತಮ್ಮ 10 ಸಾಮಾಜಿಕ ಕ್ರಮದಿಂದ ಹೋಗಿ ನಮೂನೆ ಸೇರಿಸಿ ಸಹಾಯಿಸಿ, ಮತ್ತು ಮಾಡಿ.

8. 3/4, 2/3, 4/5, 7/6 ಅರುಣಾಂಕ ವಿಧಾನಗಳಿಂದ ಸಹಾಯಿಸಿ ಮಾಡಿ.

9. ಮನೆ ವಿಶಿಷ್ಟ ವಿದ್ಯುತ್ ಸಂಪತ್ತಿ 3 ¼ ಸಾ.ಎಕ್ಸ. ಅದು. ವರ್ಷದು 1¼ ಸಾ.ಎಕ್ಸ. ಸಂಪತ್ತಿ ಸರಿಯಾಗಿ ಹೊರತುಭರ್ಜಿಸಿದ ಎಣಿಕೆ ಎಣಿಕೆ ?

10. ಮನೆ ಪ್ರತಿ ಕೀಲೆಂಬರಿನಲ್ಲಿ ½ ಕೀಲೆಂಬರಿ ಮಾಡಿ. 8 ಕೀಲೆಂಬರಿ ಕೀಲೆಂಬರಿಯ ಸಂಖ್ಯೆಯು ಅಮ್ಲದಲ್ಲಿ ಎಂದು ಎಂದು ಮಾಡಿ ಮೇಲೆ ಪ್ರತಿಯಾಗಿ ?

CIX
11. 3 ½ ଚେ. ରାଷ୍ଟ୍ରମାନ୍ତରକ, ମାରାଠୀ ଲିଖିତାପକ ଇଜଲାକୁ ଭାରତର ଯୁଗନାମ୍ଯ ੁର ପ୍ରଦମାନ ଛରଡାରେ କରାଶାଇଇ ?

12. ଭାଗ ମାରାଠୀ ପଠନାକୁ ମାରାଠୀ ଯୁଗନାମ୍ଯ ପ୍ରଦମାନ ଛରଡାରେ କରାଶାଇଇ ?

13. 7.634 ସାଇ 3 ସାଇ ପଠନାକୁ କରାଶାଇ ?

14.
15. A solution of 50.75 mg/ml of a substance has a concentration of 5.25 mg/ml. What is its percentage of the original solution?

16. A solution of 50 mg/ml of a substance, 25 mg/ml of another substance in a mixture, what is the percentage of the original solution?

17. A solution of substances in a mixture has the following:

<table>
<thead>
<tr>
<th>Substance</th>
<th>Quantity</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.50</td>
<td>½</td>
<td></td>
</tr>
<tr>
<td>0.25</td>
<td>25%</td>
<td></td>
</tr>
<tr>
<td>0.25</td>
<td>75%</td>
<td></td>
</tr>
</tbody>
</table>

18. 6 ml. + 50 mg/ml + 75 mg/ml of a substance, what is the percentage?

19. A solution of 575 mg/ml of a substance, when mixed with 500 mg/ml of another substance, what is the percentage of the mixture?
20. ಸಂಖ್ಯಾ ಸಸ್ತನದ ವರ್ಷ 11.75 ಸ. ವರ್ಷ 11 ಬಟ್ಟು ಹಾಸಿಗೆ 11.75 ಸ. ವರ್ಷ 11 ಬಟ್ಟು ಹಾಸಿಗೆ ಅನುಕ್ರಮವಾದುದ್ದೆ?

21. ಭಾರತೀಯ ರಾಷ್ಟ್ರಾವಧಿ ವಿದ್ಯಾಭ್ಯಾಸದಲ್ಲಿ ರಾಜ್ಯ ಭಾಷೆಯನ್ನು ಒಳಿಸುವ ರಾಜ್ಯಗಳ ಹೆಸರು ರಚನೆಗಳು ಸಾಧರಣವಾಗಿ ನಿರ್ದೇಶಿಸಿರಬೇಕೆಂಬತ್ತಿದ್ದು:

ಸ್ಥಳೀಯ ಅಂಶವೇಳೆಂದರೆ:

ಮಾಧ್ಯಮಿಕ: ಸಾಗಣೆ

ಇವೆಂದು: 01.01.2008

<table>
<thead>
<tr>
<th>ಸಂಖ್ಯೆ.ಸ್ಥಳ.</th>
<th>ವಿಜ್ಞಾನ</th>
<th>ಸತ್ತು ಮಟ್ಟ</th>
<th>ಸತ್ತು ಸಂ.</th>
<th>ಹಾಸಿಗೆ</th>
<th>ಹಾಸಿಗೆ ಸಂ.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>100 ಹಾಸಿಗೆ</td>
<td>4</td>
<td>9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>ಹಾಸಿಗೆ</td>
<td></td>
<td>10</td>
<td>20.00</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>ಹಾಸಿಗೆ</td>
<td>2</td>
<td>4.00</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

ಹಾಸಿಗೆ ಸಂ.ನಂದಿ ಹೊರಸೇನಾದರೂ ಹೊಸ ಹಾಸಿಗೆ ಹೊರಸೇತು

22. ಪ್ರತಿಯೊಂದು ಚಿಹ್ನೆಯು ಎಂದರೆ ಚಿಹ್ನೆ?

![Diagram](https://via.placeholder.com/150)
23. ಶಾಸ್ತ್ರಕ್ರಮದಲ್ಲಿಯೂ ಎಲ್ಲಾ ಸಂಪರ್ಕ ಸರಳೀಯ ಸರಕುತ್ತಿದೆ. ಸಾಧ್ಯತೆಯು ಶೈಕ್ಷಣಿಕ.

24. ಸೂರ್ಯನಗರದಲ್ಲಿ ಸಂಧ್ಯಾಯಿತು 90° ಸೂರ್ಯನಗರಿಸಿದ್ದೆ.
ANSWER KEY

1. 1,01,011
2. 9,00,000 + 0 + 8000+700+0+6
3. 32,14,320 ; 32,15,032; 32,15,203; 32,15,302
4. 8750
5. 974० रु. राशि सादृश्य = 970
   49० रु. राशि सादृश्य = 500
   संयोजन = 1470
   सम्बंधित राशि = 1500
6. 1934
7. 1= I  2= II  3= III  4= IV  5= V  6= VI  7= VII  8= VIII  9= IX  10= X
8. 7/6
9. विभिन्न शालिंग राशि = 3 3/4 रू.मिन = 15/4 रू.मिन
   शालिंग ज्यामिति राशि = 1 1/4 रू.मिन = 5/4 रू.मिन
   राशि राशि राशि = 15/4-5/4
   = 10/4रू.मिन = 5/2=2½ रू.मिन
   (यदिव्यक्ति राशि विभिन्न राशि आदर्श अभिलक्षित)
10. 8 रु.से डिझैन सहू जनप्रतिबंध मिश्रणने राशि = 1/2 रु.से
     8 रु.से डिझैन जनप्रतिबंध मिश्रणने राशि = 1/2 x 8 = रु.4
11. \[ \text{mass} = \frac{1}{2} \times 7 = \frac{7}{2} \text{ g} \]

\[ \text{mass of sugar} = 14 \]

\[ \begin{align*}
\text{final concentration} & = \frac{\frac{7}{2} \times \frac{1}{14}}{14} = \frac{1}{4} \text{ g} \\
\end{align*} \]

12. 0.4

13. 0.03

14. 0.1, 0.3, 0.4, 0.5

15. \[ \text{mass} = 50.75 \text{ g} \]

\[ \text{mass} = 5.25 \text{ g} \]

\[ \text{mass} = 56.00 \text{ g} \]

16. \[ \begin{align*}
\text{mass} & = 5 \rightarrow 0.50 \times 5 = 2.50 \text{ g} \\
\text{mass} & = 4 \rightarrow 0.25 \times 4 = 1.00 \text{ g} \\
\text{mass} & = 3.50 \text{ g} \\
\end{align*} \]

17.

<table>
<thead>
<tr>
<th>Concentration</th>
<th>Fraction</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.50</td>
<td>1/2</td>
<td>50%</td>
</tr>
<tr>
<td>0.25</td>
<td>1/4</td>
<td>25%</td>
</tr>
<tr>
<td>0.75</td>
<td>3/4</td>
<td>75%</td>
</tr>
</tbody>
</table>

18. \[ 600 \times 0.5 + 50 \times 0.3 + 75 \times 0.4 = 725 \text{ g} \]
19. वंसावन्यक्तिक वजन = 575 वि
    वंसन्यक्तिक वजन = 500 वि
    अवस्थाने किंवलमिती वजन = 75 वि

20. नम अयुक्त ने = 11.75 ते
    11 अयुक्त ने = 11.75 x 11
    = 129.25 ते.

21. सर्वसूची अयुक्तक्रम

आयुक्त: संवादान 
प्रकट: 1/1/2007

<table>
<thead>
<tr>
<th>स.सं.</th>
<th>माण</th>
<th>संख्या</th>
<th>मूलमूल</th>
<th>मूलमूल</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>100वर्ष्याचा संवाचार अयुक्त</td>
<td>4</td>
<td>9</td>
<td>36</td>
</tr>
<tr>
<td>2</td>
<td>अबूर</td>
<td>2</td>
<td>10</td>
<td>20.00</td>
</tr>
<tr>
<td>3</td>
<td>अबूर</td>
<td>2</td>
<td>1.00</td>
<td>4.00</td>
</tr>
<tr>
<td></td>
<td>मूलमूल</td>
<td></td>
<td></td>
<td>60.00</td>
</tr>
</tbody>
</table>

22. अतिरिक्तसन्यास

23. निर्देशसंयोजन

24. A

<table>
<thead>
<tr>
<th>B</th>
<th>C</th>
</tr>
</thead>
</table>

CXVI