

**PROBLEM SET 1:**

Fill in the blanks using the number to alphabet code below:

**ADDITION:**

$$\begin{array}{ccccc} 2+7 = I & 9+17 = M & 2+3 = A & 4+9 = H & 3+18 = T \\ 4+7 = L & 2+0 = K & 3+22 = E & 4+3 = S & \end{array}$$

$$\overline{9} \quad \overline{11} \quad \overline{9} \quad \overline{2} \quad \overline{25} \quad \overline{26} \quad \overline{5} \quad \overline{21} \quad \overline{13} \quad \overline{7}$$

**SUBTRACTION:**

$$\begin{array}{ccccc} 12-3 = I & 24-19 = C & 54-41 = O & 45-24 = H & \\ 23-12 = L & 21-19 = K & 32-7 = E & 14-7 = S & \end{array}$$

$$\overline{9} \quad \overline{11} \quad \overline{9} \quad \overline{2} \quad \overline{25} \quad \overline{7} \quad \overline{5} \quad \overline{21} \quad \overline{13} \quad \overline{13} \quad \overline{11}$$

**MULTIPLICATION:**

$$\begin{array}{cccccc} 2 \times 7 = I & 9 \times 7 = M & 2 \times 3 = U & 4 \times 9 = L & 3 \times 18 = T & 13 \times 1 = F \\ 4 \times 7 = P & 2 \times 0 = Y & 3 \times 22 = N & 4 \times 3 = G & 15 \times 3 = S & \end{array}$$

$$\overline{63} \quad \overline{6} \quad \overline{36} \quad \overline{54} \quad \overline{14} \quad \overline{28} \quad \overline{36} \quad \overline{0} \quad \overline{14} \quad \overline{66} \quad \overline{12} \quad \overline{14} \quad \overline{45} \quad \overline{13} \quad \overline{6} \quad \overline{66}$$

**DIVISION:**

$$\begin{array}{ccccc} 15/3 = D & 21/7 = I & 54/3 = E & 49/7 = V & 38/19 = N \\ 47/47 = L & 0/29 = A & 32/2 = R & 33/3 = U & \end{array}$$

$$\overline{5} \quad \overline{3} \quad \overline{7} \quad \overline{3} \quad \overline{5} \quad \overline{18} \quad \overline{0} \quad \overline{2} \quad \overline{5} \quad \overline{16} \quad \overline{11} \quad \overline{1} \quad \overline{18}$$

**MIXED:**

$$\begin{array}{ccccc} 2 \times 7 = I & 9+17 = M & 21 \times 3 = N & 14-9 = A & 360/60 = T \\ 91/7 = X & 57/3 = D & 33+22 = H & 41-32 = C & \end{array}$$

$$\overline{26} \quad \overline{14} \quad \overline{13} \quad \overline{5} \quad \overline{63} \quad \overline{19} \quad \overline{26} \quad \overline{5} \quad \overline{6} \quad \overline{9} \quad \overline{55}$$

## **PROBLEM SET 2:**

Write the following numbers in words:

1. 577

2. 192

3. 1654

4. 12009

5. 100922

6. 87634

7. 19223383

8. Rs. 30.86

9. Rs. 983.64

10. Rs. 1013.24

11. Rs. 0.67

12. Rs. 5986.00

### **PROBLEM SET 3:**

Write the following words in numbers:

1. Nine hundred fifty-seven
2. Seven thousand two hundred thirty-nine
3. Thirty five thousand three hundred thirty-five
4. One lakh
5. Two lakhs seventeen thousand five hundred twenty-two
6. Twenty-nine thousand one
7. Sixty-six thousand six hundred sixty-six
8. Eleven thousand five hundred eleven
9. Sixty-five rupees and thirty-two paise
10. Three hundred and ninety-five rupees and thirty-one paise
11. Forty rupees
12. Two lakh ninety thousand rupees and twenty-three paise

#### **PROBLEM SET 4:**

You will need a ruler for this exercise:

Please measure the lengths (in cm.) of the following:

1. The longest pencil in your pencil box = \_\_\_\_ cm
2. The length of your eraser = \_\_\_\_ cm
3. The width/breadth of your eraser = \_\_\_\_\_ cm
4. The length of your pencil box = \_\_\_\_\_ cm
5. The width/breadth of your pencil box = \_\_\_\_\_ cm
6. The length of your Maths notebook = \_\_\_\_\_ cm
7. The width of your Maths notebook = \_\_\_\_\_ cm
8. The length of your Maths textbook = \_\_\_\_\_ cm
9. The width of your Maths textbook = \_\_\_\_\_ cm
10. The length of your thumb = \_\_\_\_\_ cm
11. The length of your index finger = \_\_\_\_\_ cm
12. The length of your little finger = \_\_\_\_\_ cm

**PROBLEM SET 5:**

Arrange the fractions in ascending order:

1.  $13/17, 14/15, 1/2, 1/5, 2/3, 7/9, 1/11$
2.  $1/4, 3/4, 29/31, 12/13, 15/17, 16/32$
3.  $7/28, 12/15, 19/23, 1/8, 6/18, 14/16$
4.  $51/102, 25/100, 2/12, 17/85$
5.  $43/86, 22/88, 19/57, 66/198$
6.  $29/87, 22/67, 19/56, 12/30, 1/9$

Arrange the fractions in descending order:

7.  $1/2, 3/4, 2/5, 5/8, 6/10$
8.  $34/68, 13/29, 13/39, 4/16, 5/23$
9.  $23/46, 32/67, 19/34, 33/37, 14/27$
10.  $47/95, 35/71, 63/126, 53/159, 12/12$
11.  $32/44, 11/22, 55/77, 31/61, 0/23$
12.  $13/17, 13/19, 13/23, 13/29, 13/31$

### PROBLEM SET 6:

Select the fractions that are equal to:

1.  $33/66 = 1/3, 4/5, 2/7, 1/2, 3/4, 2/7$

2.  $23/69 = 3/4, 1/3, 2/3, 7/11, 4/7$

3.  $3/4 = 4/5, 6/9, 12/15, 75/100, 2/5$

4.  $20/50 = 7/45, 8/20, 4/6, 2/4, 1/9$

5.  $66/99 = 3/5, 6/7, 4/9, 20/30, 23/24$

6.  $15/25 = 9/15, 6/12, 34/35, 29/100, 2/3$

7.  $34/68 = 1/3, 2/4, 3/7, 4/9, 10/13$

8.  $19/31 = 23/23, 45/69, 38/62, 1/2, 1/4$

9.  $21/30 = 6/34, 7/10, 3/4, 5/9, 10/13$

10.  $21/84 = 3/4, 5/78, 34/68, 4/16, 7/23$

11.  $17/102 = 41/82, 36/74, 1/6, 7/43, 9/99$

12.  $9/81 = 3/44, 6/54, 5/43, 2/17, 15/103$

**PROBLEM SET 7:**

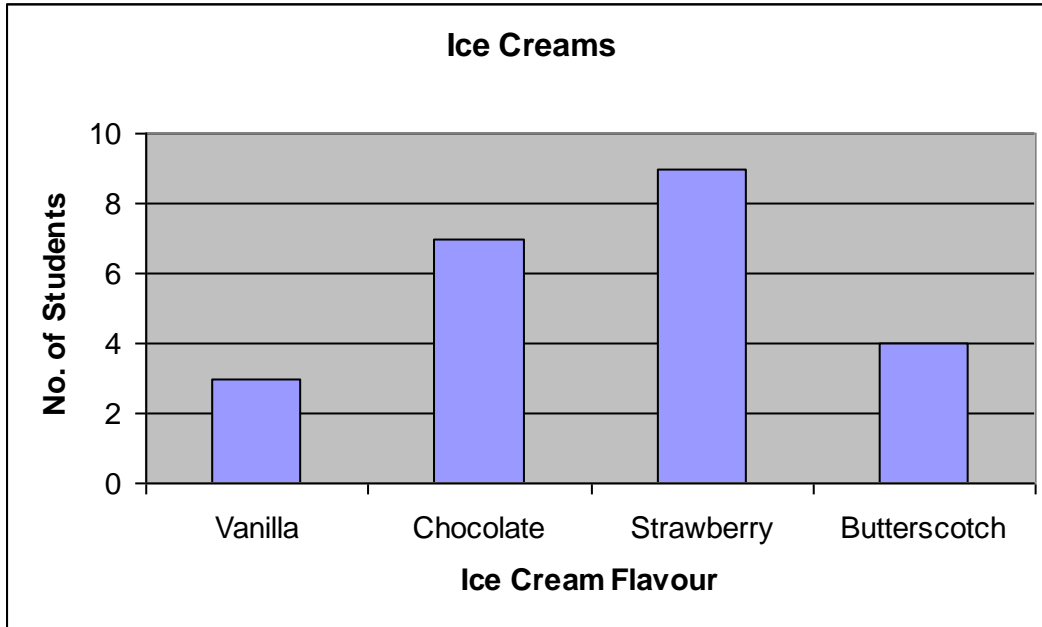
Place a tick mark in the appropriate box if the number in the left hand column is divisible by any of the numbers in the top row:

	<b>DIVISIBLE BY.....?</b>						
<b>NUMBER</b>	2	3	4	5	6	9	10
75							
99							
28							
130							
23							
39							
57							
25							
165							
137							
256							
333							
192							
34							
3							
124							
545							
676							
729							
484							
1225							
71							
210							
35							
29							

You will find some numbers that are not divisible by any of the given numbers (in the top row). What are such numbers called and why?

### PROBLEM SET 8:

Please refer to the bar graph below and answer the questions that follow:

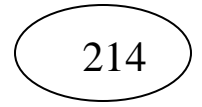
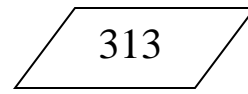
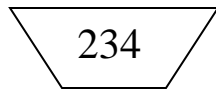
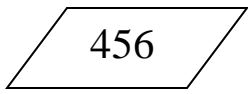


1. What is the class' favourite ice-cream?
2. How many students like Vanilla?
3. How many students prefer Chocolate to Vanilla?
4. What fraction of students in the class likes Butterscotch?
5. What is the total number of students in the class?
6. Circle your favourite flavour of ice cream
7. In the space below, redraw the graph if 6 students like Vanilla, 2 like Butterscotch and  $\frac{2}{3}$  of the remaining class likes Chocolate.



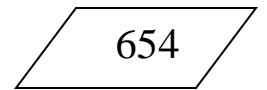
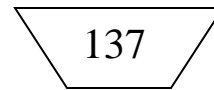
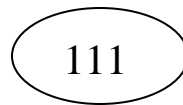
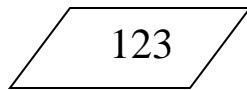
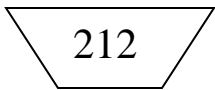
**PROBLEM SET 9:**

A. For the set of numbers below:



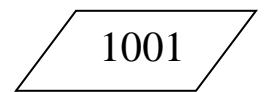
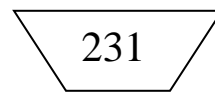
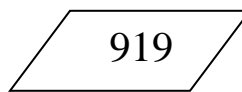
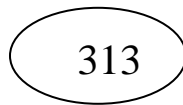
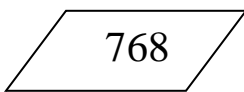
1. Colour the parallelograms with values less than 400 in Red
2. In what kind of shape is the number 435 located?
3. What figure has the number 234?

B. For the set of numbers below:



4. Colour the trapezium with a prime number in Blue
5. In what kind of shape is the number 212 located?
6. Name and colour (in Green) the figure that has the product of 37 and 3 in it.

C. For the set of numbers below:



7. Colour the ellipse in Yellow. Is the number in the ellipse divisible by 7?
8. Colour the parallelograms whose numbers are greater than One thousand.
9. Add the numbers in the ellipse and the trapezium. Subtract this number from 2 lakh.

**PROBLEM SET 10:**

Find A, B, C and D below, based on the mathematical equations that follow:

1.

<b>ROW 1</b>	A	54	434	101
<b>ROW 2</b>	7	108	343	D
<b>ROW 3</b>	6	C	B	111
<b>TOTAL</b>	<b>43</b>	<b>2</b>	<b>1000</b>	<b>200</b>

$$(7 \times 6) - A = 43$$

$$(108/54) + C = 2$$

$$434 + 343 + B = 1000$$

$$(111+101) - D = 200$$

2.

<b>ROW 1</b>	256	484	A	66
<b>ROW 2</b>	16	22	243	C
<b>ROW 3</b>	B	D	9	6
<b>TOTAL</b>	<b>32</b>	<b>0</b>	<b>81</b>	<b>1</b>

$$(256 / 16) + B = 32$$

$$(484/22) + D = 0$$

$$(243/9) \times A = 81$$

$$(66/6) - C = 200$$

3.

<b>ROW 1</b>	2	A	2	44
<b>ROW 2</b>	B	1	C	D
<b>ROW 3</b>	78	59	9	88
<b>TOTAL</b>	<b>45</b>	<b>360</b>	<b>220</b>	<b>121</b>

$$(78 / 2) + B = 45$$

$$(59+1) \times A = 360$$

$$(2+9) \times C = 220$$

$$D - (88+44) = 121$$

**PROBLEM SET 11:**

Use a combinations of mathematical operations to find the values of A, B, C and D. Only work vertically with a single column at a time. (Note: There can be more than one correct answer)

1.

<b>ROW 1</b>	2	A	3	6
<b>ROW 2</b>	B	1	C	D
<b>ROW 3</b>	4	4	9	6
<b>TOTAL</b>	<b>12</b>	<b>36</b>	<b>30</b>	<b>2</b>

2.

<b>ROW 1</b>	22	7	A	24
<b>ROW 2</b>	27	7	2	C
<b>ROW 3</b>	B	D	9	6
<b>TOTAL</b>	<b>54</b>	<b>49</b>	<b>121</b>	<b>60</b>

3.

<b>ROW 1</b>	A	44	365	111
<b>ROW 2</b>	245	C	365	222
<b>ROW 3</b>	244	92	D	B
<b>TOTAL</b>	<b>0</b>	<b>1095</b>	<b>1</b>	<b>444</b>

4.

<b>ROW 1</b>	1	234	D	A
<b>ROW 2</b>	B	1235	27	0
<b>ROW 3</b>	435	C	27	234
<b>TOTAL</b>	<b>139</b>	<b>352</b>	<b>729</b>	<b>904</b>

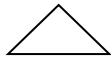
5.

<b>ROW 1</b>	A	6789	2345	456
<b>ROW 2</b>	231	1235	345	D
<b>ROW 3</b>	123	C	B	1234
<b>TOTAL</b>	<b>0</b>	<b>7890</b>	<b>10000</b>	<b>123456</b>

**PROBLEM SET 12:**

Draw the third picture for every pattern:

Example:



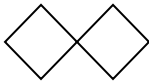
(Ans. →)



1.



2.



3.

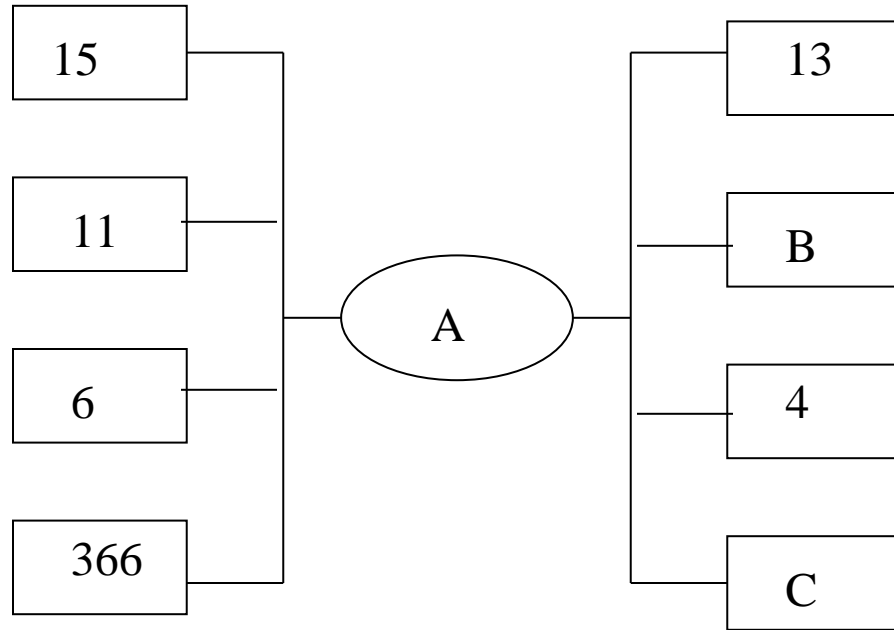


4.



**PROBLEM SET 13:**

1. Find the values of A, B and C, where A determines the relationship between the numbers on the left with those on the right:



**(Ans. A = -2)**

1. Find the values of D, E, F and G:

