A Textbook of Mathematics for Class 5th



The Jammu and Kashmir State Board of School Education Jammu/Srinagar

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Merry Math-V

Who is Pappu waiting for?

Pappu cat is waiting for somebody. Do you know for whom he is waiting? There is a trick to find out.



Mark with a red dot all the numbers which can be divided by 2.

Mark a yellow dot on the numbers which can be divided by 3 and a blue dot on the numbers which can divided by 4.

Which are the boxes which have dots of all three colours?

What are the letters on the top of those boxes?

Write those letters below in order.



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Meow Game

To play this game, everyone stands in a circle. One player calls out 'one'. The next player says 'two' and so on. A player who has a call out 3 or a number which can be divided by 3 has to say 'Meow' instead of the number. One who forgets to say 'Meow' is out of the game. The last player left is the winner.

Which numbers did you replace with 'Meow'?

3, 6, 9



We say these numbers are the **multiples** of 3. Play the game by changing the number to 4. Now, which number did you replace with 'Meow'? These numbers are the multiples of 4.

✤ Write any ten multiples of 5.

Dice Game

Throw two dice together. What are the numbers that turn up on the faces of the dice?

Mark a two-digit number using them .If it is a multiple of the numbers written next to the circles, you can write it in that circle. Then it is your friend's turn. The one who can write more numbers in 10 rounds is the winner.





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Common Multiples

Think of a number .If it is multiple of 3 write it in the red circle. If it is a multiple of 5 write it in the blue circle.



Repeat the game by putting the multiples of 4, 6 and 5 in the circle.

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- What common multiples of 5 and 6 did you write in the green part?
- What common multiples of 4 and 6 are written in the orange part?
- In which coloured part did you write the common multiples of 4, 6 and 5?
- ✤ What are the smallest common multiples of 4, 6 and 5?

Puzzle

Tamarind seeds

Sumiya took some tamarind (*imli*) seeds. She made groups of five with them, and found that one seed was left over. She tried making groups of six and groups of four. Each time one seed was left over. What is the smallest number of seeds that Sumiya had?



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More Tamarind Seeds

Aamina is arranging 12 tamarind seeds in the form of different rectangles. Try to make more rectangles like using 12 tamarind seeds. How many different rectangles can you make?

If there are 15 tamarind seeds how many rectangles can you make?



Colouring the Grid



In the grid here, a rectangle made of 20 boxes is drawn. The width of this rectangle is 2 boxes.

- ✤ What is its length?
- Colour a rectangle made of 20 boxes in some other way.
- What is the length and width of the rectangle of the rectangle you coloured?

✤ In how many ways can you colour a rectangle of 20 boxes?

Colour them all in the grid, and write the length and width of each rectangle you have coloured.

Bangles

There are 18 bangles on the rod. Ulfat is trying to group them. She can put them in 18 groups of 2,3,6, 9 and 18 – without any bangle being left.

How many groups will she have if she makes groups of 1 bangle each?

Now complete the table, for different number of bangles. For each number see what different groups can be made.





Number of	Different groups
bangles	we can make
18	1, 2, 3, 6, 9, 18
24	1, 2,
5	
9	
7	
2	
10	
1	
20	
13	
21	

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Fill the Chart Complete the multiplication chart given here. ×

Look at the green boxes in the chart. These show how we can get 12 by multiplying different numbers.

 $12=4 \times 3$, so 12 is multiple of both 4 and 3. 12 is also a multiple of 6 and 2, as well as 12 and 1. We say 1, 2, 3, 4, 6, 12 are **factors** of 12.

✤ What are the factors of 10?

- Can you do this from the chart?
- ✤ What are the factors of 36?
- ✤ Find out the factors of 36 from the multiplication chart.
- ✤ What is the biggest number for which you can find the factors from this chart?

What can you do for numbers bigger than that?

Common factors

Write the factors of 25 in the red circle and the factors of 35 in the blue circle

> Which are the factors you have written in the common path (purple) of both circles? These are the common factors of 25 and 35.

> Now write the factors of 40 in the red circle and 60 in the blue circle

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\bigcap	10	
	5×2	

 1×12

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Factor Tree

Look at the factor tree. Now can you make another tree like this?



In how many ways can you draw a factor tree for 24?
Draw three of them below?

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 \dots





Try drawing factors tree using another numbers also.

Tiling Problems

Marth

1. There is a garden in Nazima's house. In the middle of the garden there is a path. They decided to tile the path using tiles of length 2 feet, 3 feet and 5 feet.

The mason tiled the first row with 2 feet tiles, the second row with 3 feet tiles and the third row with 5 feet tiles. Then what is the shortest length of the path?

2. Irfan has made a new house. He wants to lay tiles on the floor. The size of the room is 9 feet × 12 feet. In the market, there are three kinds of square tiles: 1 foot ×1 foot, 2 feet × 2 feet and 3 feet × 3 feet. Which size of tiles should he buy for his room, so that he can lay it without cutting?

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Asma, Sumaira, Rukaiya live near each other. The distance from their houses to the road is 90 feet. They decided to tile the path to the road .They all bought tiles of different designs and length. Asma bought the shortest tile, Sumaira bought the middle sized one and Rukaiya bought the longest one. If they could tile the path without cutting any of the tiles, what is the size of the tiles each has bought? Suggest 3 different solutions. Explain how you get this answer.

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Now Let's Do These

Q.NO.1	Write the factors of:				
	(a) 16 (b) 28 (c) 54 (d) 80				
Q.NO.2	Write the common factors of:				
	(a) 9 and 15 (b) 18 and 21 (c) 27 and 54				
Q.NO.3	Write first five multiples of:				
	(a) 3 (b) 5 (c) 9 (d) 11				
Q.NO.4	Write first two common multiples of:				
	(a) 5 and 6 (b) 4 and 3 (c) 4 and 8				
	(d) 3 and 5 (e) 3 and 7				
Q.NO.5	Which of the following numbers are divisible:				
	(a) By 2 (b) By 4 (c) By 5				
	4940; 940; 25280; 562; 496; 3625				
Q.NO.6	Find the H.C.F of:				
	(a) 12 and 16 (b) 45 and 36 (c) 28 and 40				
	(d) 40 and 75 (e) 49 and 36				
Q.NO.7	Find the L.C.M of:				
	(a) 3, 4 (b) 6, 9 (c) 12, 18 (d) 9, 15 (e) 7, 8				

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	ANSWERS
Q.NO.1	(a) 1, 2, 4, 8, 16
	(b) 1, 2, 4, 7, 14, 28
	(c) 1, 2, 3, 6, 9, 18, 27, 54
	(d) 1, 2, 4, 8, 10, 16, 20, 40, 80.
Q.NO.2	
	(a) 1, 3 (b) 1, 3 (c) 1, 3, 9, 27.
Q.NO.3	
	(a) 3, 6, 9, 12, 25,
	(b) 5, 10, 15, 20, 25,
	(c) 9, 18, 27, 36, 45
	(d) 11, 22, 33, 44, 55,
Q.NO.4	
	(a) 30, 60 (b) 12, 24 (c) 8, 16 (d) 15, 30 (e) 21, 42
Q.NO.5	
	(a) 4940; 940, 25280, 562, 496
	(b) 4940; 940, 25280, 496
	(d) 4940; 940, 25280, 3625
Q.NO.6	
	(a) 4 (b) 9 (c) 4 (d) 5 (e) 1
0.NO.7	
	(a) 12 (b) 18 (c) 36 (d) 45 (e) 56