NCERT SOLUTIONS

CLASS - 5th

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Class : 5th
Subject : Maths
Chapter : 6
Chapter Name : Be My Multiple, I'll be Your Factor

Q1 a) The steps on which the mouse jumps —
b) the step son which the cat jumps—
c) The steps on which both the cat and the mouse jump —
d) Can the mouse get away?

Answer. a) the mouse jumps 14, 16, 18, 20, 22, 24, 26 and 28
b) The cat jumps 3, 6, 9, 12, 15,18, 21, 24, 27 and 30
c) Both jump 18 and 24
d) yes, because they can never become together so, mouse safely gets away.

Page : 87 , Block Name : The Mouse and the Cat

Q1 If the cat starts from the 5th step and jumps five steps at a time and the mouse starts From the 8th step and jumps four steps at a time, can the mouse get away?

Answer. the mouse jumps 8, 12, 16, 20, 24The cat jumps 5, 10, 15,20, 25 Both of them reach the steps 20 after four jumps. So, the mouse will not get away.

Page : 87 , Block Name : Find Out

Q1 Monto cat is waiting for somebody. Do you know for whom he is waiting? There is a trick to find out.
a) Mark with a red dot all the numbers which can be divided by 2.
b) Mark a yellow dot on the number which can be divided by 3 and a blue dot on numbers which can be divided by 4.
c) Which are the boxes which have dots of all three colors?
d) What are the letters on top of those boxes?
e) Write those letters blow in order.

Answer. 12, 24, 36, 48 and 60 have all the three colors.
Hence, Monto cat is waiting for the Mouse.

Page : 88 , Block Name : Who is Monto waiting for?

Q1 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 to 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.

a) Which number did you replacewith? Meow?
b) Play the game by changing the number to 4.Now,which number did you replace with meow?
c) Write any ten multiples of 5.

Answer. a) 3,6,9,12,15,18,21,24
b) 4,8,12,16,20,24,28,32.
c) 5, 10, 15, 20, 25, 30, 35, 40, 45,50.

Page : 89 , Block Name : Meow Game

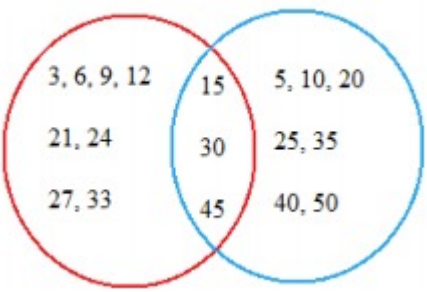
Q1 Throw two dice together. What are the numbers that turn upon the faces of the dice?Make a two-digit number using them. If it is a multiple of any of the number written next To the circles, you can write it in that circle. Then it is your friend’s turn. The one who can Write more numbers in 10 rounds is the winner

Answer. Following are the examples: 6: 12, 24, 36, 42
5: 15, 25, 35, 45
4: 12, 16, 24, 32
7: 14, 21, 35, 42

Page : 90 , Block Name : Dice Game

Q1 Think of a number. If it is a multiple of 3 write it in the red circle. If it is a multiple of 5 Write it in the blue circle.

Answer.



Page : 91 , Block Name : Common Multiples

Q2 Where do I write 15? It is a multiple of both 3 and 5.

Answer. we can write 15 in the common (purple) part of a circle.

Page : 91 , Block Name : Common Multiples

Q3 Which is the smallest among these common multiples?

Answer. 15

Page : 91 , Block Name : Common Multiples

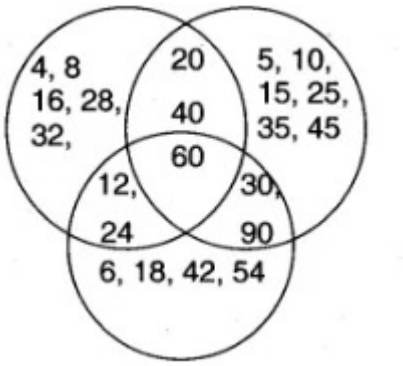
Q4 Write the common multiples of 2 and 7.

Answer. 14, 28, 42, 56,70 .....

Page : 91 , Block Name : Common Multiples

Q5 Repeat the game by putting the multiples of 4, 6 and 5 in the circles.

Answer.



Page : 92 , Block Name : Common Multiples

Q6 What common multiples of 5 and 6 did you write in the green part?

Answer. 30 and 90.

Page : 92 , Block Name : Common Multiples

Q7 What common multiples of 4 and 6 are written in the orange part?

Answer. 12 and 24

Page : 92 , Block Name : Common Multiples

Q8 In which colored part did you write the common multiples of 4, 5 and 6?

Answer. written in grey part.

Page : 92 , Block Name : Common Multiples

Q9 What is the smallest common multiple of 4, 5 and 6?

Answer. 60

Page : 92 , Block Name : Common Multiples

Q1 Sunita took some tamarind 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 Sunita had?

Answer. Common multiple of 4 and 5 is 60.So, the smallest number of seeds which Sunita has is 60 + 1=61.

Page : 92 , Block Name : Puzzle

Q1 Ammini is arranging 12 tamarind seeds in the form of different rectangles. Try to make More rectangles like this using 12 tamarind seeds, How many different rectangles can You make? If there are 15 tamarind seeds how many rectangles can you make?

Answer. the rectangle can be made by using 12 seeds.

Coloring the grid

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

Page : 93 , Block Name : More Tamarind Seeds

Q2 What is its length?

Answer. The length is 10 boxes.

Page : 93 , Block Name : More Tamarind Seeds

Q3 Colour a rectangle made of 20 boxes in some other way.

Answer. It can be shown by the following grid

Page : 93 , Block Name : More Tamarind Seeds

Q4 What is the length and width of the rectangle you colored.

Answer. Rectangles of the following length and width can be made 5 x 2, 20 x 1

Page : 94 , Block Name : More Tamarind Seeds

Q5 In how many ways can you color a rectangle of 20 boxes? Color them all in the grid, And write the length and width of each rectangle you have colored

Answer. This can be done in three ways: 10 x 2, 20 x 2, 5 x 4

Page : 94 , Block Name : More Tamarind Seeds

Q6 How many groups will she have if she makes groups of 1 bangle each?

Answer. 18 groups of 1 bangle each.

Page : 94 , Block Name : More Tamarind Seeds

Q7 Now complete the table, for a different number of bangles. For each number see what Different groups can be made.

Answer.

Number of bangles	*Different groups we can make*
18	1, 2, 3, 6, 9, 18
24	1, 2, 3, 4, 6, 8, 12, 24
5	1, 5
9	1, 3, 9
7	1, 7
2	1, 2
10	1, 2, 5, 10
1	1
20	1, 2, 4, 5, 10, 20
13	1, 13
21	1, 3, 7, 21

Page : 94 , Block Name : More Tamarind Seeds

Q1 Complete the multiplication chart given below:

Answer.

	1	2	3	4	5	6	7	8	9	10	11	12
1	1	2	3	4	5	6	7	8	9	10	11	12
2	2	4	6	8	10	12	14	16	18	20	22	24
3	3	6	9	12	15	18	21	24	27	30	33	36
4	4	8	12	16	20	24	28	32	36	40	44	48
5	5	10	15	20	25	30	35	40	45	50	55	60
6	6	12	18	24	30	36	42	48	54	60	66	72
7	7	14	21	28	35	42	49	56	63	70	77	84
8	8	16	24	32	40	48	56	64	72	80	88	96
9	9	18	27	36	45	54	63	72	81	90	99	108
10	10	20	30	40	50	60	70	80	90	100	110	120
11	11	22	33	44	55	66	77	88	99	110	121	132
12	12	24	36	48	60	72	84	96	108	120	132	144

Page : 94 , Block Name : Fill The Chart

Q2 What are the factors of 10?

Answer. 1, 2, 5, 10.

Page : 95 , Block Name : Fill The Chart

Q3 Can you do this from the chart?

Answer. Yes, we can find it

Page : 95 , Block Name : Fill The Chart

Q4 What are the factors of 36?

Answer. 1, 2, 3, 4, 6, 9, 12, 18 and 36.

Page : 96 , Block Name : Fill The Chart

Q5 Find out all the factors of 36 from the multiplication chart.

Answer. From the table,we can get:
36 = 3 x 12
36 = 4 x 9
36 = 6 x 6
36 = 9 x 4
36 = 18 x 2

Page : 96 , Block Name : Fill The Chart

Q6 What is the biggest number for which you can find the factors from this chart? The Biggest number for which we can find the factors from this chart?

Answer. The biggest number from this chart is 144.

Page : 96 , Block Name : Fill The Chart

Q7 What can you do for numbers bigger than that?

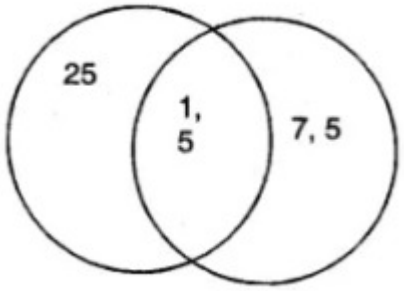
Answer. we can use the table and getabigger number.
For example 120

2	120
2	60
2	30
3	15
5	5
	1

Page : 96 , Block Name : Fill The Chart

Q1 Write the factors of 25 in the red circle and the factors of 35 in the blue circle.

Answer.



Page : 96 , Block Name : Common Factors

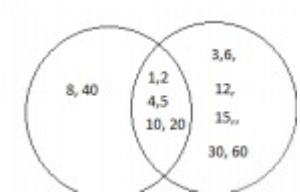
Q2 Which are the factors you have written in the common part of both circles? These are common factors of 25 and 35.

Answer. 1 and 5.

Page : 96 , Block Name : Common Factors

Q3 Now write the factors of 40 in the red circle and 60 in the blue circle.

Answer.



Page : 96 , Block Name : Common Factors

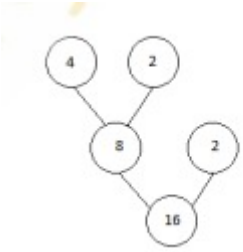
Q1 What are the factors written in the common part of the circle? Which is the biggest common factor of 40 and 60?

Answer. The common factors are in the common part of circle 1, 2, 4, 5, 10, and 20.The biggest common factor of 40 and 60 is 20.

Page : 96 , Block Name : Factor Tree

Q1 Look at the factor tree. Now you can make another tree like this?

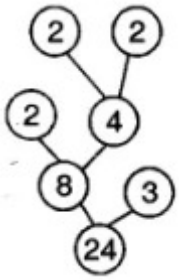
Answer.

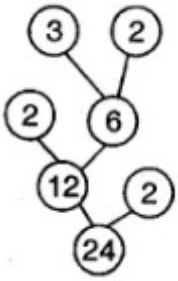


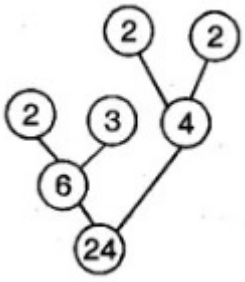
Page : 97 , Block Name : Factor Tree

Q2 In how many ways can you draw a factor tree for 24? Draw three of them below.

Answer.



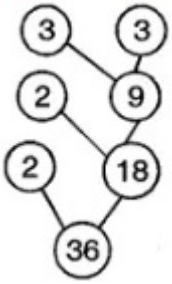


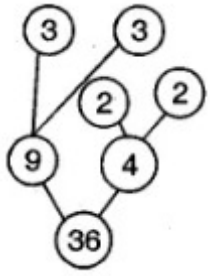


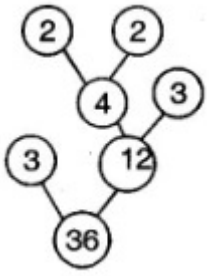
Page : 97 , Block Name : Factor Tree

Q3 Try drawing the factor tree using other numbers also.

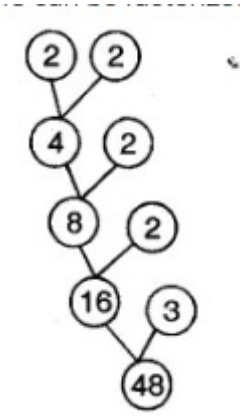
Answer. 36 can be factorized as given factor trees.

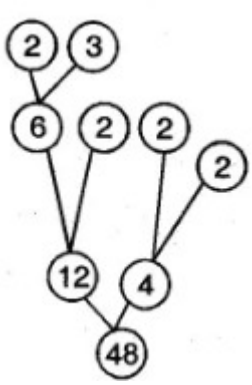


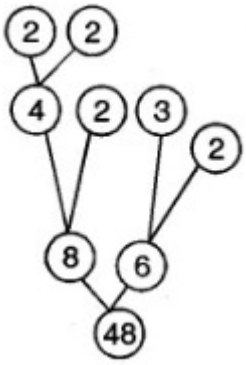




48 can be factorized as given factor trees.







Page : 97 , Block Name : Factor Tree

Q1 There is a garden in Anu’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. The meson has not cut any of the tiles. Then what Is the shortest length of the path?

Answer. Multiple of 2 :2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30.Multiple of 3: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30.Multiple of 5: 5, 10, 15, 20, 25, 30The common multiple is 30. Hence, 30 feet.

Page : 97 , Block Name : Tilling Problems

Q2 Manoj has made a new house. He wants to lay tiles on the floor. The size of the room Is 9 feet x 12 feet. In the market, there are three kinds of square tiles: 1 foot x 1 foot , 2 feet x 2 feet, and 3 feet 3 feet foot foot. Which size of tile should he buy for his Room, so that he can lay it without cutting?

Answer. 2 is not a factor of 9 which is the width of the room.

Page : 98 , Block Name : Tilling Problems

Q3 Rani, Geeta,and Naseema live near each other. The distance from their houses to th Road is 90 feet. They decide to tile the path to the road. They all bought tiles of different designs and length. Rani bought the shortest tile, Geeta bought the middle sized one and Naseema bought the longest one. If they could tile the path without cutting any of tile. What is the size of the tiles each has bought? Suggest 3 different solutions. Explain how you get this answer.

Answer. we can factorize 90 in different ways.
90 = 1 x 90
90 = 2 x 45
90 = 3 x 30
90 = 5 x 18

Page : 98 , Block Name : Tilling Problems