Factors and Multiples

- Q1. State true or false:
 - a. There are many even prime numbers.
 - b. 1 is the smallest odd prime number.
 - c. 6 and 7 are co-prime numbers.
 - d. The HCF of (Any even number,2) is 2.
- Q2. Check the divisibility of the following numbers and write Yes or No in the boxes:

| Number | Divisible By | | | | | | | | |
|----------|--------------|---|----|--|--|--|--|--|--|
| Nullibei | 4 | 8 | 11 | | | | | | |
| 20488 | | | | | | | | | |
| 12100 | | | | | | | | | |
| 88044 | | | | | | | | | |
| 1760 | | | | | | | | | |

- Q3. Fill in the blanks:
 - a. A number is divisible by 24, if it is divisible by both ____ and ____.
 - b. A number is divisible by 36, if it is divisible by both ____ and ____.
 - c. A number is divisible by 12, if it is divisible by both ____ and ____.
- Q4. From the numbers given below cross out the prime numbers:

| 2 | 54 | 28 | 51 |
|----|----|----|----|
| 22 | 3 | 31 | 46 |
| 27 | 61 | 5 | 39 |
| 37 | 93 | 90 | 49 |

- Q5. Find the HCF of the following using the prime factorisation method:
 - a. 93, 39
 - Answer: _____
 - b. 75, 60
 - Answer:

Q6. Find the HCF of 64, 24, 120 by Short Division Method.

Answer: _____

Q7. Fill in the missing entries and find the HCF of 124 and 540 by Long Division Method:

| 1 | 2 | 0 | 5 | 4 | 4 | | | | | | |
|---|---|---|---|---|---|-------|---|---|---|---|---|
| | | _ | | | | | 1 | | | | |
| | | | | 6 | 4 | | | | | | |
| | | | | | | 6 | 4 | | 1 | | |
| | | | | | | | | 6 | 4 | | |
| | | | | | | | _ | | | | |
| | | | | | | | | | 8 | 5 | 6 |
| | | | | | | | | | | 5 | 6 |
| | | | | | | | | | | | 0 |

HCF of (124,540) = _____

Q8. Shirin wants to plant 15 rose plants and 20 marigold plants in rows. She wants all the rows to have the same number of plants with no plants left over. Find the maximum number of plants that Shirin can plant in each row.

Answer: _____

Q9. Find the LCM of 48, 56 and 72 by prime factorisation method.

Answer: _____

Q10. Find the LCM of 28, 49 and 63 by short Division Method.

Answer:

Q11. Fill in the missing entries in the table:

| 1st number | 2 nd number | HCF | LCM | Product of HCF and LCM |
|------------|------------------------|-----|-----|------------------------|
| 28 | 24 | 4 | | |
| 91 | 104 | 13 | | |
| 15 | | | | 105 |
| | 63 | | | 2646 |

Q12. The cat Billy jumps three stairs at a time, where as the dog Barny jumps 5 steps at a time. If both start from the bottom, find the first stair on which both Billy and Barny will jump?

| 18 | 17 | 16 | | | | | | | | | | | | | | | | |
|-------------------|----|----|----|----|----|----|----|----|---|---|---|---|---|---|---|----------|---|---------|
| 18 | 17 | 16 | | | | | | | | | | | | | | \vdash | | 1 |
| 18 | 17 | 16 | | | | | | | | | | | | | | | | |
| | 17 | 16 | | | | | | | | | | | | | | | | |
| | | 16 | | | | | | | | | | | | | | | | |
| | | | | 1 | | | | | | | | | | | | | | |
| | | | 15 | | | | | | | | | | | | | | | |
| \longrightarrow | | | | 14 | | | | | | | | | | | | | | |
| | | | | | 13 | | | | | | | | | | | | | |
| | | | | | | 12 | | | | | | | | | | | | |
| \dashv | | | | | | | 11 | | | | | | | | | | | |
| | | | | | | | | 10 | | | | | | | | | | |
| \dashv | | | | | | | | | 9 | | | | | | | | | |
| \dashv | | | | | | | | | | 8 | | | | | | | | |
| \dashv | | | | | | | | | | | 7 | | | | | | | |
| \dashv | | | | | | | | | | | , | 6 | | | | | | |
| _ | | | | | | | | | | | | 0 | 5 | | | | | |
| | | | | | | | | | | | | | 3 | 1 | | | | |
| \dashv | | | | | | | | | | | | | | 4 | 2 | | | |
| | | | | | | | | | | | | | | | 3 | 2 | | |
| \dashv | | | | | | | | | | | | | | | | 2 | 1 | |
| | | | | | | | | | | | | | | | | | 1 | Similar |
| | - | | | | | | | | | | | | | | | | 4 | 3 |

| Answer: | |
|---------|------|
| | |

| Q13. | Find tl | he | numb | er ' | that | shoul | d be | su | btrac | ted | from | 80 | to | make | it | divis | ible | by | 18, |
|------|---------|----|------|------|------|-------|------|----|-------|-----|------|----|----|------|----|-------|------|----|-----|
| | 24, 36 | ò. | | | | | | | | | | | | | | | | | |

Q14. Read the passage carefully and fill in the blanks:

distribute sweets in both the classes such that every student of a class gets the same number of sweets and no sweets are left over. If she brings a packet of 50 sweets each for Class V-A and Class V-B, then: Each student of class V-A will get _____ sweets, ____ sweets will be left over Each student of class V-B will get _____ sweets, ____ sweets will be left over But if she brings a packet of _____ sweets each for Class V-A and Class V-B, then: Each student of class V-A will get _____ sweets, 0 sweets will be left over Each student of class V-B will get _____ sweets, 0 sweets will be left over Q15. Find whether the following scenarios are possible or not. Give reasons for your answer: a. Swati knows a number which does not have 1 as its factor. Answer: ____ b. Rishabh has found the HCF of 89908 and 56082 as 60082. Answer: ____ c. Garima has found two pairs of numbers that have the same LCM. Answer: d. Sushil knows a number that is even but also prime. Answer:

There are 20 students in Class V-A and 25 students in class V-B. Shikha wants to

ANSWERS

- 1. a. False
 - b. False
 - c. True
 - d. True
- 2.

| Number | | Divisible By | | | | | | | | |
|----------|-----|--------------|-----|--|--|--|--|--|--|--|
| Nullibel | 4 | 8 | 11 | | | | | | | |
| 20488 | Yes | Yes | No | | | | | | | |
| 12100 | Yes | No | Yes | | | | | | | |
| 88044 | Yes | No | Yes | | | | | | | |
| 1760 | Yes | Yes | Yes | | | | | | | |

- 3. a. 3 and 8
 - b. 4 and 9
 - c. 3 and 4
- 4.

| | 54 | 28 | 51 |
|----|------------|----|----|
| 22 | X | 31 | 46 |
| 27 | 6 1 | × | 39 |
| 34 | 93 | 90 | 49 |

- 5. a. 3
 - b. 15
- 6. 8
- 7.

| | | | | | 4 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 0 | 5 | 4 | 4 | | | | | | | |
| | | | 4 | 8 | 0 | | | 1 | | | | |
| | | | | 6 | 4 | 1 | 2 | 0 | | | | |
| | | | | | | | 6 | 4 | | 1 | | |
| | | | | | | | 5 | 6 | 6 | 4 | | |
| | | | | | | | | _ | 5 | 6 | | 7 |
| | | | | | | | | | | 8 | 5 | 6 |
| | | | | | | | | | | | 5 | 6 |
| | | | | | | | | | | | | 0 |

 \rfloor HCF = 8

- 8. 5 plants
- 9. 1008
- 10. 1764
- 11. 1st number 2nd number **HCF** Product of HCF and LCM LCM 28 24 4 168 672 13 91 104 728 9464 <u>7</u> 15 105 1 <u>105</u> 42 63 <u>21</u> 126 2646
- 12. 15th stair
- 13. 8
- 14. Each student of class V-A will get <u>2</u> sweets, <u>10</u> sweets will be left over Each student of class V-B will get <u>2</u> sweets, <u>0</u> sweets will be left over But if she brings a packet of <u>100</u> sweets each for Class V-A and Class V-B, then: Each student of class V-A will get <u>5</u> sweets, 0 sweets will be left over Each student of class V-B will get <u>4</u> sweets, 0 sweets will be left over
- 15. a. Not possible. Every number has 1 as its factor.
 - b. Not Possible. HCF of two numbers cannot be greater than the smallest number.60082 > 56082
 - c. Possible. (2, 8) and (4, 8) have the same LCM: 8.
 - d. Possible. 2 is an even prime number.