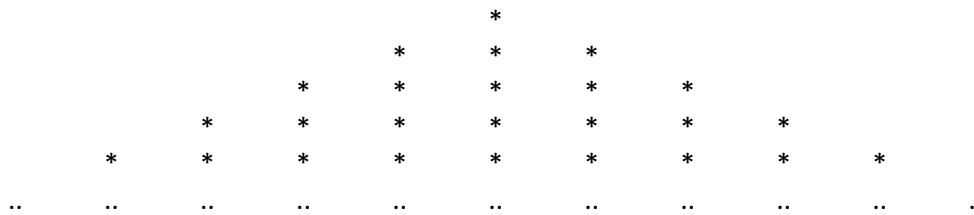_Pi**Ve𝜋b**_

Primary [Classes V – VI]
(09/03/2021)

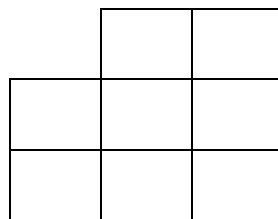1. A three digit number has the following properties
    a. *2, 3, 5 are not the factors of the number.*
    b. *It is not a prime number.*
    c. *No prime number greater than 13 is a factor of the number*

    Find all such numbers.

2. The total number of stars in the first 100 rows is _____ .

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                        *
                *       *       *
        *       *       *       *       *
    *       *       *       *       *       *       *
*       *       *       *       *       *       *       *       *
..    ..    ..    ..    ..    ..    ..    ..    ..    ..    ..
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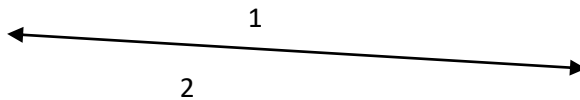
3. Rams' television has channels 2 to 39. If he starts on channel 13 and surfs pushing the channel-up button 407 times, on what channel is the television when he stops?

4. Krishna was given the task of removing the multiples of 2, 3, 5, 7 from the set of integers from 1 to 100. Find the number of numbers that remain.

5. Shiv was asked to remove numbers, which have an even number of divisors from the set of integers from 1 to 150. If shiv performs this task correctly what are the numbers that remain after Shiv completes his job? (For example, 10 has 4 divisors, namely 1, 2, 5, 10)

6. If there are 4 match sticks having length 1cm, 2cm, 3cm and 4cm. How many triangles can be made choosing 3 at a time?

7. The number of three digit numbers which end in 7 and are divisible by 11 is
    a) 2
    b) 4
    c) 6
    d) 8

8. The number of squares in this figure is _____.
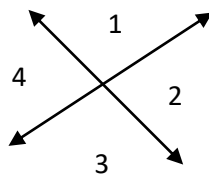
9. In a six digit number 5 digits are prime numbers. The sum of all the digits is 24. The 2nd, 3rd and 5th digits are identical and the others are distinct digits. The number is divisible by 4. The last digit of the number is.
    a) 2 or 4
    b) 4 or 6
    c) 4 or 6 or 8
    d) 2 or 6 or 8

10. If five lines are drawn in the plane, the maximum number of regions into which the plane is divided is
    a) 10
    b) 12
    c) 14
    d) 16

    What if there were 100 lines that are drawn?

    Ex: A single line divides the plane into 2 regions

    2 lines divide the plane into 4 regions

    3 lines divide the plane into 7 regions