Worksheet

1. Write seven consecutive 2-digit composite numbers.
2. In order to find prime numbers up to 100, up to what number the divisibility test will be performed?
3. Find the number which should replace * in '*245670' to make it divisible by 11.
4. Among the following numbers, find the numbers which are divisible by 3, 4, 6, 7, 9 and 11.

   a. 1124 b. 692 c. 524 d. 762

   e. 1265 f. 2695 g. 752875 h. 435672

   i. 3456783 j. 424242423
5. Write the prime factors of the following numbers in exponential form.

   a. 3240 b. 6048 c. 13860 d. 15120
6. Show that 2673 and 1190 are co-prime.
7. Write the greatest 5-digit number which is divisible by 8.
8. Find the smallest number which should be added to 56432 to make it divisible by 6.
9. Write the largest and the smallest 3-digit number which is divisble by 11. Also, find the difference.
10. Choose the correct answer.

    a. if $x < y$, xy and yx are two-digit numbers, then $xy - yx$ is always divisible by

       i. 2 ii. 4 iii. 5 iv. 9

    b. The largest number which can be written using three 3s is given by

       i. $\frac{33}{3}$ ii. 333 iii. 33^3 iv. 3^{33}

    c. The sum of the digits of a number is subtracted from the number. The resulting number is always divisible by

       i. 2 ii. 4 iii. 8 iv. 9

    d. Every integer is a

       i. natural number ii. whole number

       iii. fraction iv. rational number

    e. When first ten prime numbers are multiplied, the numeral at unit's place is

       i. 5 ii. 3 iii. 1 iv. 0

    f. When first ten odd prime numbers are multiplied, the numeral at unit's place is

       i. 0 ii. 3 iii. 5 iv. 7

    g. The greatest value of * for which a 6-digit number 63 * 5 * 5 is divisible by 9 is

       i. 9 ii. 6 iii. 5 iv. 4

    h. The number $abc + bca + cab$ is always divisible by

       i. 3 and 4 ii. 3 and 5 iii. 3 and 31 iv. 3 and 37

Answers to Worksheet

1. 90, 91, 92, 93, 94, 95, 96
2. 7
3. 4
4. Divisible by 3: d, h, i, j
   Divisible by 6: d, h
   Divisible by 9: h, i, j
   Divisible by 4: a, b, c, h
   Divisible by 7: f
   Divisible by 11: e, f, i, j
5. a. $2^3 \times 3^4 \times 5$
   b. $2^5 \times 3^3 \times 7$
   c. $2^2 \times 3^2 \times 5 \times 7 \times 11$
   d. $2^4 \times 3^3 \times 5 \times 7$
7. 99992
8. 4
9. 990,110,880
10. a. iv
    b. iv
    c. iv
    d. iv
    e. iv
    f. iii
    g. iv
    h. iv