Remarks for students

Q 107. In the figure below, the inner circles are filled with the prime factors of the numbers given in the outer circles. Each number from 1-26 corresponds to the letter in its position in the alphabet, A-Z. For instance, 1 is A, 2 is B, and so on.

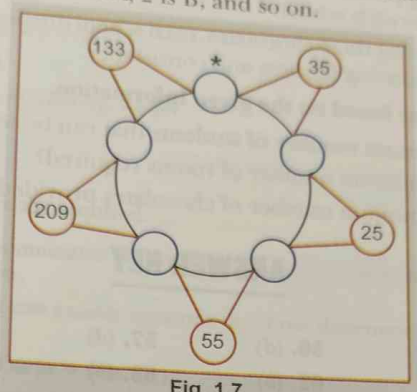

Fig. 1.7

Starting clockwise from *, find the word formed by the numbers in the inner circle.

[CFQ by CBSE]

Q 108. A rectangular arrangement of pens has rows and columns. Rohan takes away 3 rows of pens and then Sarah takes away 2 columns of pens from the remaining pens. The remaining pens are rearranged in p rows and q columns where p is a prime number.

If Rohan takes 24 pens and Sarah takes 18 pens, find all possible value(s) of p.

[CFQ by CBSE]

Q 109. Find all pairs of positive integers whose sum is 91 and HCF is 13. [CFQ by CBSE]

Q 110. $(n^2 + 3n - 4)$ can be expressed as a product of only 2 prime factors where n is a natural number. Find the value(s) of n for which the given expression is an even composite number. [CFQ by CBSE]

Q 111. On the two real numbers $a = 2 + \sqrt{5}$ and $b = 3 - \sqrt{7}$, perform the following operations:

(*i*) Calculate the sum $(a + b)$.

(*ii*) Calculate the product (ab).

(*iii*) Find the additive inverse of a.

(*iv*) Rationalise $\frac{1}{b}$.

(*v*) Verify whether the numbers a and b are rational or irrational. Provide a valid reason for your answer [CFQ by CBSE]

Q 112. (*i*) Find the LCM and HCF of 78, 91, and 195.

(*ii*) Check whether LCM$(a, b, c) \times$ HCF$(a, b, c) = a \times b \times c$ where a, b and c are natural numbers. [CFQ by CBSE]

Q 113. For the screening of an informational documentary, three schools were selected by the district administration.

Name of the school	Number of students
C.A.V. Public School	78
[illegible]	117
[illegible]	130

[illegible] and each room can