1. Write the common difference of the A.P. : $\frac{1}{5}, \frac{4}{5}, \frac{7}{5}, \frac{10}{5}, \cdots$

2. Find the 8^{th} term of the A.P. whose first term is -2 and common difference is 3.

3. Roshini being a plant lover decides to start a nursery. She bought few plants with pots.She placed the pots in such a way that the number of pots in the first row is 2, in the second is 5, in the third row is 8 and so on. Based on the above, answer the following questions :

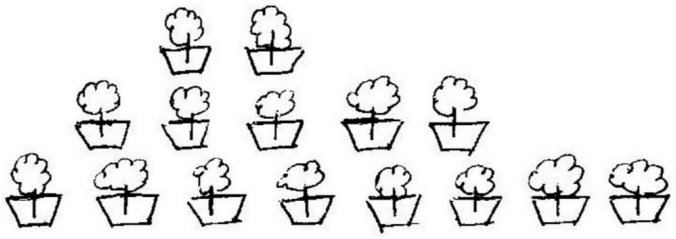

Figure 1: Plants

(i) How many pots were placed in the 7^{th} row ?

A 20
B 23
C 77
D 29

(ii) If Roshini wants to place 100 pots in total, then total number of rows formed in the arrangement will be ?

A 8
B 9
C 10
D 12

(iii) How many pots are placed in the last row ?

A 20
B 23
C 26
D 29

(iv) If Roshini ha sufficient space for 12 rows, then how many total number of pots are placed by her wih the same arrangement ?

A 222
B 155
C 187

D 313

4. Find the LCM and HCF of two numbers 26 and 91 by the method of prime factorization.

5. For two numbers x and y, if $xy = 1344$ and HCF $(x, y) = 8$, then find LCM(x, y).

6. Find the HCF of 96 and 404 by prime factorisation.

7. Express 792 as the product of its prime factors.

8. The sum of the first 4 terms of an A.P. is zero and its 4^{th} term is 2. Find the A.P.

9. If the sum of the first n terms of an A.P. is given by $S_n = 4n - n^2$, then find its n^{th} term. Hence, find the 25^{th} term and the sum if the first 25 terms of this A.P.

10. If α and β are the zeroes of the quadratic polynomial $f(x) = x^2 - x - 4$, find the value of $\frac{1}{\alpha} + \frac{1}{\beta} - \alpha\beta$.

11. If one zero of the quadratic polynomial $x^2 + 3x + k$ is 2, then find the value of k.

12. Find the mean of first 10 composite numbers.

13. If S_n denotes the sum of first n terms of an A.P., prove that $S_{12} = 3(S_8 - S_4)$.

14. After how many decimal places will the decimal expansion of the rational number $\frac{14587}{1250}$ terminate ?

15. State giving reason whether $5 \times 7 \times 11 + 11$ is a composite number or a prime number.

16. If the 6^{th} and 14^{th} terms of an A.P. are 29 and 69 respectively, then find the 10^{th} term of the A.P.

17. If the first three consecutive terms of an A.P. are $3y - 1, 3y + 5$ and $5y + 1$ find the value of y.