1. Find the rule which gives the number of matchsticks required to make the following matchsticks patterns. Use a variable to write the rule.

(i) A pattern of letter T as T

(ii) A pattern of letter V as V

(iii) A pattern of letter Z as Z

(iv) A pattern of letter U as U

(v) A pattern of letter F as F

(vi) A pattern of letter S as 5

Solution:

(i) Number of matchsticks required = 2n

(ii) Number of matchsticks required = 2n

(iii) Number of matchsticks required = 3n

(iv) Number of matchsticks required = 3n

(v) Number of matchsticks required = 4n

(vi) Number of matchsticks required = 5n

2. If there are 24 mangoes in a box, how will you write the number of mangoes in terms of the number of boxes? (Use b for the number of boxes.)

Solution:

Total number of mangoes = 24b

3. Anuradha is drawing a dot Rangoli (a beautiful pattern of lines joining dots). She has 8 dots in a row. How many dots will her Rangoli have for r rows? How many dots are there if there are 12 rows?

Solution:

Given:

Number of dots in 1 row = 8

Number of dots in ‘r’ rows = 8 × r = 8

Number of dots in 12 rows = 12 × 8 = 96

4. Anu and Meenu are sisters. Anu is 5 years younger than Meenu. Can you write Anu's age in terms of Meenu's age? Take Meenu's age as x years.
Solution:
Yes, we can write Anu's age in terms of Meenu's age.
We know that age of Meenu = x
It is given that Anu is 5years younger than Meenu.
So, age of Anu = (x - 5) years

5. Oranges are to be transferred from larger boxes to smaller boxes. When a larger box is emptied, the oranges from it fill 3 smaller boxes and still 7 oranges are left. If the number of oranges in a small box is taken to be x, then what is the number of oranges in the larger box?
Solution:
Let us consider number of oranges in a smaller box be 'x'.
So, number of oranges in 3 smaller boxes = 3x

Number of oranges remained outside = 7
So, number of oranges in the larger box = 3x + 7

6. Harsha's score in Mathematics is 15 more than three-fourth of her score in Science. If she scores x marks in Science, find her score in Mathematics?
Solution:
Let us consider the score of science be 'x'.
It is given that Harsha's score in mathematics is = ¾ th of x + 15
So, Harsha's score in mathematics is ¾ x + 15