

- (a) $(8x + 6)$ m
(c) $(4x + 3)$ m

- (b) $(6x + 8)$ m
(d) $(4x + 3)$ m

- (iii) What is the value of x if the area of total field is 1260 m^2 .
(a) 21 m (b) 10 m
(c) 20 m (d) 15 m

- (iv) What is the area of grassland ?
(a) 180 m^2 (b) 360 m^2
(c) 400 m^2 (d) 860 m^2

(v) What is the ratio of area of flowerbed to area of grassland ?

- (a) 23/40 (b) 20/43
(c) 26/43 (d) 23/46

9. A road roller (sometimes called a roller-compactor, or just roller) is a compactor-type engineering vehicle used to compact soil, gravel, concrete, or asphalt in the construction of roads and foundations. Similar rollers are used also at landfills or in agriculture. Road rollers are frequently referred to as steamrollers, regardless of their method of propulsion.

RCB Machine Pvt Ltd started making road roller 10 year ago. Company increased its production uniformly by fixed



number every year. The company produces 800 roller in the 6th year and 1130 roller in the 9th year.

On the basis of the above information, answer any four of the following questions :

- (i) What was the company's production in first year ? (a) 150 (b) 200
(c) 250 (d) 290
- (ii) What was the company's production in the 8th year ?
(a) 760 (b) 820
(c) 880 (d) 1020
- (iii) What roller the company's total production of the first 6 years? (a) 3150 (b) 1775
(c) 2250 (d) 1725
- (iv) What was the increase in the company's production every year ? (a) 160 (b) 130
(c) 90 (d) 110
- (v) In which year the company's production was 1350 rollers ?
(a) 5th (b) 6th
(c) 11th (d) 9th

Part-B

10. Find the point on x-axis which is equidistant from the points (2,-2) and (-4,2).

OR

P (-2, 5) and Q (3, 2) are two points. Find the co-ordinates of the point R on PQ such that $PR=2QR$

11. If $\tan A = 3/4$, find the value of $1/\sin A + 1/\cos A$.

12. 12 solid spheres of the same radii are made by melting a solid metallic cylinder of base diameter 2cm and height 16cm. Find the diameter of the each sphere.

13. If one root of the quadratic equation $3x^2 + px + 4 = 0$ is $2/3$, then find the value of p and the other root of the equation.

OR

The roots α and β of the quadratic equation $x^2 - 5x + 3(k-1) = 0$ are such that $\alpha - \beta = 1$. Find the value of k.

14. Determine the A.P. whose fourth term is 18 and the difference of the ninth term from the fifteenth term is 30.

15. If $\tan(A + B) = \sqrt{3}$ and $\tan(A - B) = 1/\sqrt{3}$, $0^\circ < A + B \leq 90^\circ$; $A > B$, find A and B.

16. If the mean of the following distribution is 6, find the value of p.

x	2	4	6	10	$p+5$
f	3	2	3	1	2

17. Rasheed got a playing top (lattu) as his birthday present, which surprisingly had no colour on it. He wanted to colour it with his crayons. The top is shaped like a cone surmounted by a hemisphere. The entire top is 5 cm in height, and the diameter of the top is 3.5 cm. Find the area he has to colour. (Take $\pi = 22/7$)

OR

A tent is in the shape of a cylinder surmounted by a conical top. If the height and diameter of the cylindrical part are 2.1 m and 4 m respectively, and the slant height of the top is 2.8 m, find the area of the canvas used for making the tent. Also, find the cost of the canvas of the tent at the rate of 500 per m^2 . (Note that the base of the tent will not be covered with canvas)