

Practice Set 11.1 8th Std Maths Answers Chapter 11 Statistics

Question 1.

The following table shows the number of saplings planted by 30 students. Fill in the boxes and find the average number of saplings planted by each student.

No. of saplings (Scores) x_i	No. of students (frequency) f_i	$f_i \times x_i$
1	4	4
2	6	—
3	12	—
4	8	—
	$N = \underline{\hspace{1cm}}$	$\sum f_i \times x_i = \underline{\hspace{1cm}}$

$$\text{Mean } \bar{x} = \frac{\boxed{\hspace{1cm}}}{N}$$

$$= \frac{\boxed{\hspace{1cm}}}{\boxed{\hspace{1cm}}}$$

$$= \boxed{\hspace{1cm}}$$

\therefore The average number of trees planted is $\boxed{\hspace{1cm}}$

Solution:

No. of saplings (Scores) x_i	No. of students (frequency) f_i	$f_i \times x_i$
1	4	4
2	6	12
3	12	36
4	8	32
	$N = \underline{\hspace{1cm}}$	$\sum f_i \times x_i = 84$

$$\begin{aligned}\text{Mean } \bar{x} &= \frac{\sum f_i x_i}{N} \\ &= \frac{84}{30} = \frac{14 \times 6}{5 \times 6} = \frac{14}{5} \\ &= 2.8\end{aligned}$$

∴ The average number of trees planted is 2.8

Question 2.

The following table shows the electricity (in units) used by 25 families of Eklara village in a month of May. Complete the table and answer the following questions.

Electricity used (Units) x_i	No. of families (frequency) f_i	$f_i \times x_i$
30	4	
45	6	
60	12	
75	8	
90	3	
	$N = \underline{\hspace{1cm}}$	$\sum f_i \times x_i =$

- How many families use 45 units electricity?
- State the score, the frequency of which is 5.
- Find N , and $\sum f_i \times x_i$.
- Find the mean of electricity used by each family in the month of May.

Solution:

Electricity used (Units) x_i	No. of families (frequency) f_i	$f_i \times x_i$
30	7	210
45	2	90
60	8	480
75	5	375
90	3	270
	$N = 25$	$\sum f_i \times x_i = 1425$

- i. 2 families used 45 units of electricity.
 ii. The score for which the frequency is 5 is 75
 iii. $N = 25$ and $\sum f_i \times x_i = 1425$
 iv.

$$\begin{aligned}\text{Mean } (\bar{x}) &= \frac{\sum f_i x_i}{N} \\ &= \frac{1425}{25}\end{aligned}$$

$$\text{Mean } (\bar{x}) = 57$$

The mean of electricity used by each.

Question 3.

The number of members in the 40 families in Bhilar are as follows:

1, 6, 5, 4, 3, 2, 7, 2, 3, 4, 5, 6, 4, 6, 2, 3, 2, 1, 4, 5, 6, 7, 3, 4, 5, 2, 4, 3, 2, 3, 5, 5, 4, 6, 2, 3, 5, 6, 4,
 2. Prepare a frequency table and And the mean of members of 40 families.

Solution:

Number of members (x_i)	Tally marks	No. of families frequency (f_i)	$f_i \times x_i$
1		2	2
2		8	16
3		7	21
4		8	32
5		7	35
6		6	36
7		2	14
		$N = 40$	$\sum f_i x_i = 156$

$$\begin{aligned}\text{Mean } (\bar{x}) &= \frac{\sum f_i x_i}{N} \\ &= \frac{156}{40} = \frac{39 \times 4}{10 \times 4} = \frac{39}{10}\end{aligned}$$

$$\therefore \bar{x} = 3.9$$

\therefore The mean of the members of 40 families is 3.9.

Question 4.

The number of Science and Mathematics projects submitted by Model high school, Nandpur in last 20 years at the state level science exhibition is:

2, 3, 4, 1, 2, 3, 1, 5, 4, 2, 3, 1, 3, 5, 4, 3, 2, 2, 3, 2. Prepare a frequency table and find the mean of the data.

Solution:

Number of projects (x_i)	Tally marks	No. of years frequency (f_i)	$f_i \times x_i$
1		3	3
2		6	12
3		6	18
4		3	12
5		2	10
		$N = 20$	$\sum f_i x_i = 55$

$$\begin{aligned}\text{Mean } (\bar{x}) &= \frac{\sum f_i x_i}{N} \\ &= \frac{55}{20} = \frac{11 \times 5}{4 \times 5} = \frac{11}{4}\end{aligned}$$

$$\therefore \text{Mean } (\bar{x}) = 2.75$$

\therefore The mean of the given data is 2.75.

Maharashtra Board Class 8 Maths Chapter 11 Statistics Practice Set 11.1 Intext Questions and Activities

Question 1.

The number of pages of a book Ninad read for five consecutive days were 60, 50, 54, 46, 50. Find the average number of pages he read everyday. (Textbook pg. no. 67)

Solution:

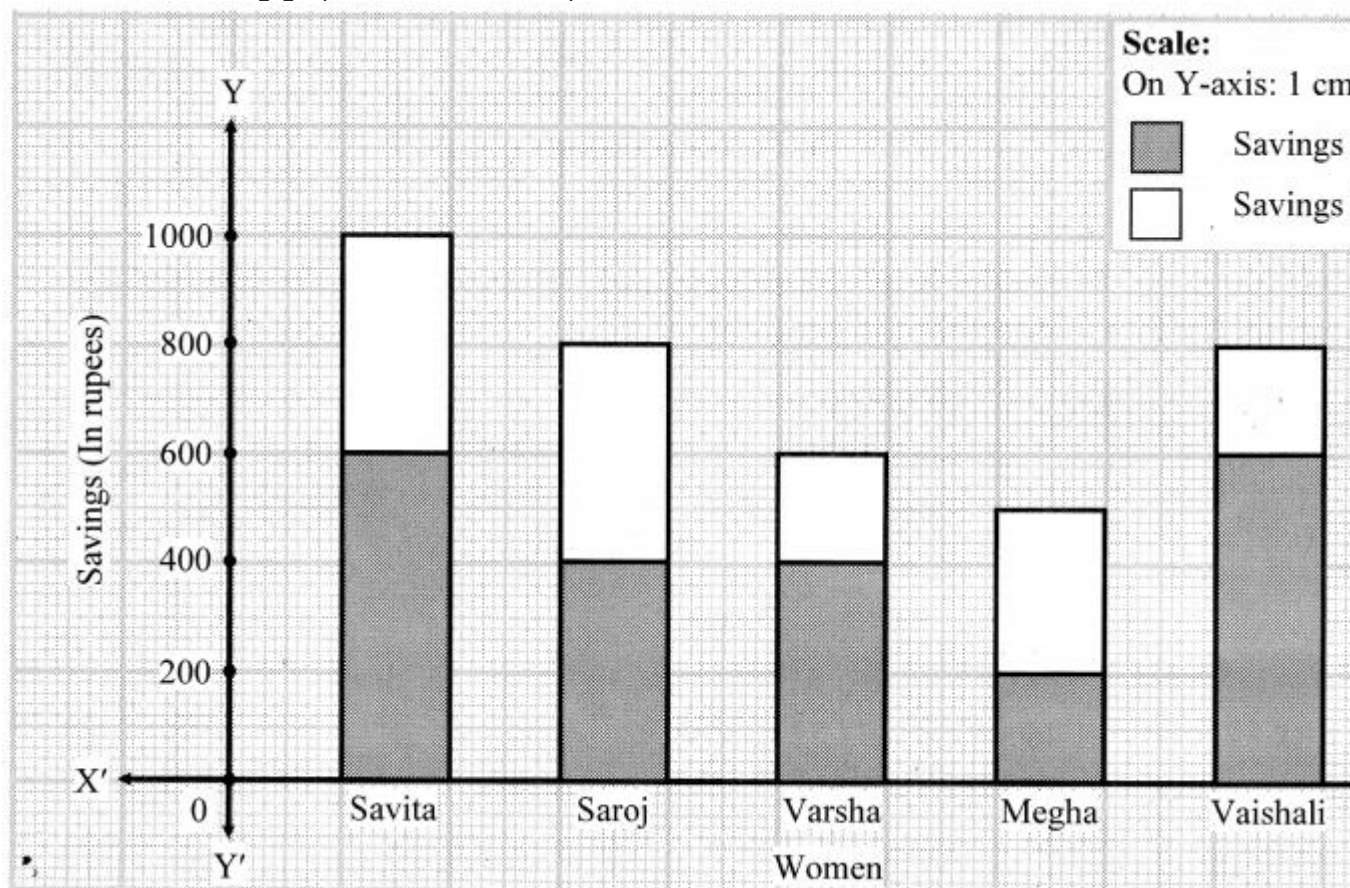
$$60 + [50] + [54] + [46] + 50[5] = 260[5] = [52]$$

\therefore Average number of pages read daily is 52

Practice Set 11.2 8th Std Maths Answers Chapter 11 Statistics

practice set 11.2 8th class Question 1.

Observe the following graph and answer the questions.



- State the type of the graph.
- How much is the savings of Vaishali in the month of April?
- How much is the total of savings of Saroj in the months March and April?
- How much more is the total savings of Savita than the total savings of Megha?
- Whose savings in the month of April is the least?

Solution:

- The given graph is a subdivided bar graph.
- Vaishali's savings in the month of April is Rs 600.
- Total savings of Saroj in the months of March and April is Rs 800.
- Savita's total saving = Rs 1000, Megha's total saving = Rs 500
 \therefore difference in their savings = $1000 - 500 = \text{Rs } 500$.
 Savita's saving is Rs 500 more than Megha.
- Megha's savings in the month of April is the least.

practice set 11.2 Question 2.

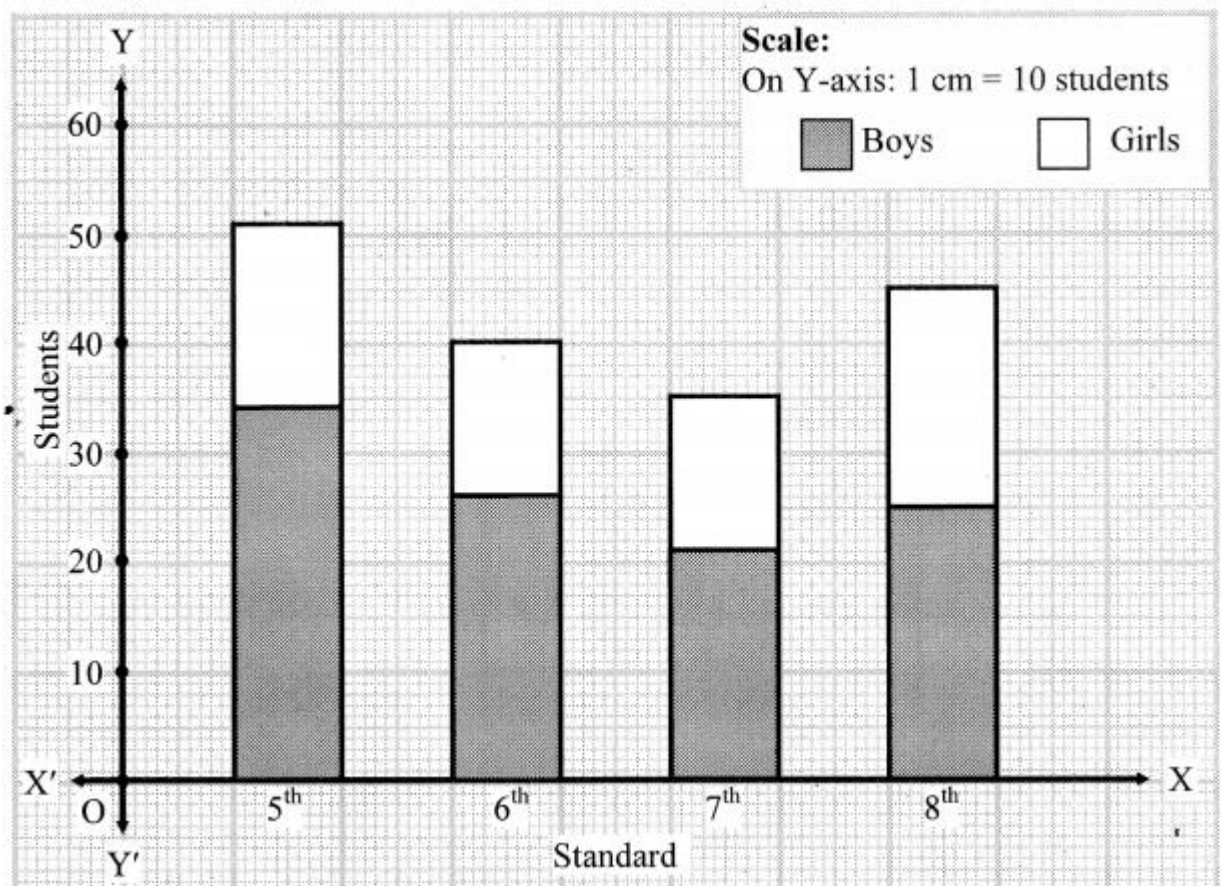
The number of boys and girls, in std 5 to std 8 in a Z.P. School is given in the table. Draw a subdivided bar graph to show the data. (Scale : On Y axis, 1cm = 10 students)

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Standard	5th	6th	7th	8th
Boys	34	26	21	25
Girls	17	14	14	20

Solution:

Standard	5th	6th	7th	8th
Boys	34	26	21	25
Girls	17	14	14	20
Total	51	40	35	45



Statistics class 8 practice set 11.1 Question 3.

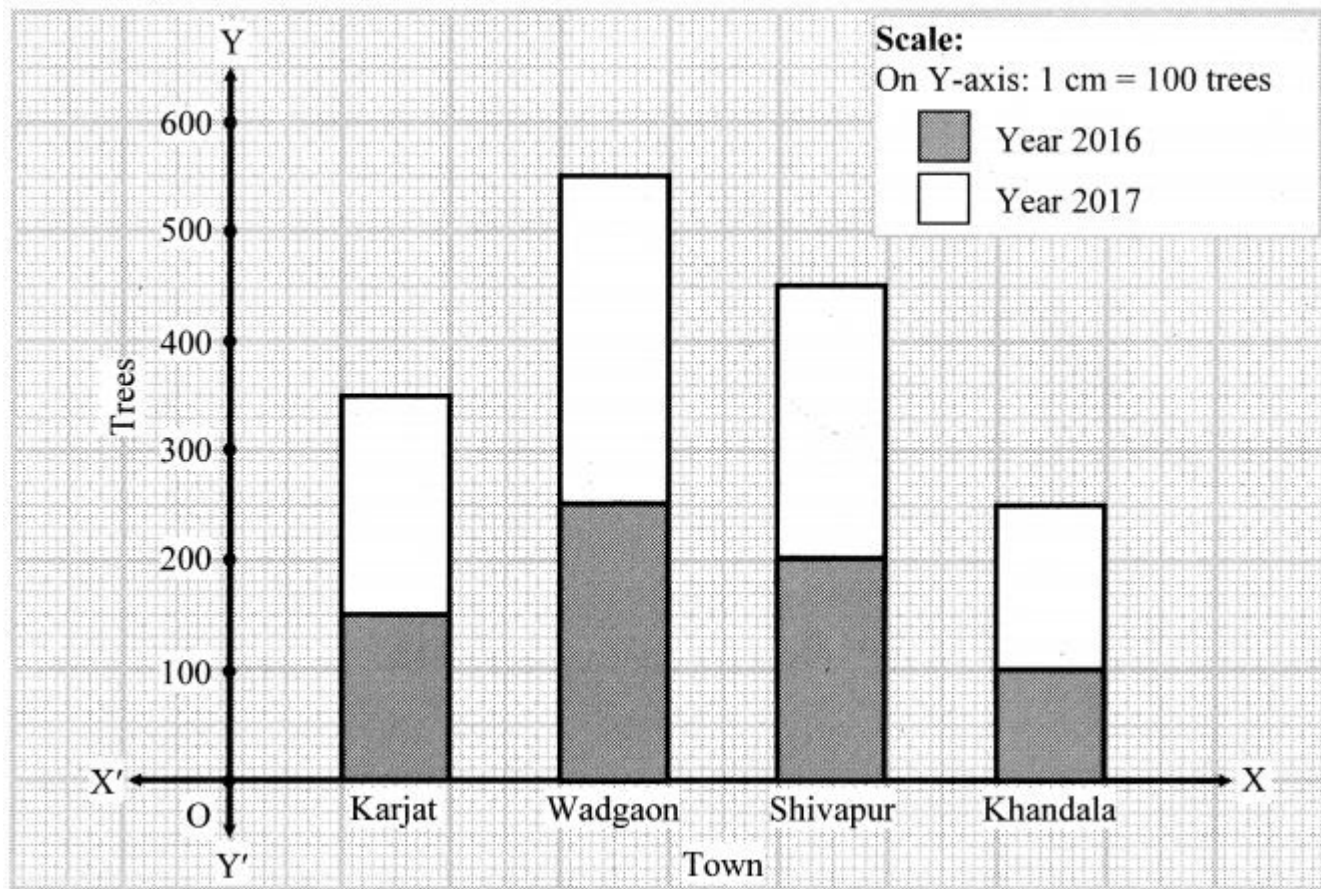
In the following table number of trees planted in the year 2016 and 2017 in four towns is given. Show the data with the help of subdivided bar graph.

Year\Town	karjat	Wadgaon	Shivapur	Khandala
2016	150	250	200	100

2017	200	300	250	150
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Solution:

Year\Town	karjat	Wadgaon	Shivapur	Khandala
2016	150	250	200	100
2017	200	300	250	150
Total	350	550	450	250



Statistics class 8 Question 4.

In the following table, data of the transport means used by students in 8th standard for commutation between home and school is given. Draw a subdivided bar diagram to show the data.

(Scale: On Y axis: 1 cm = 500 students)

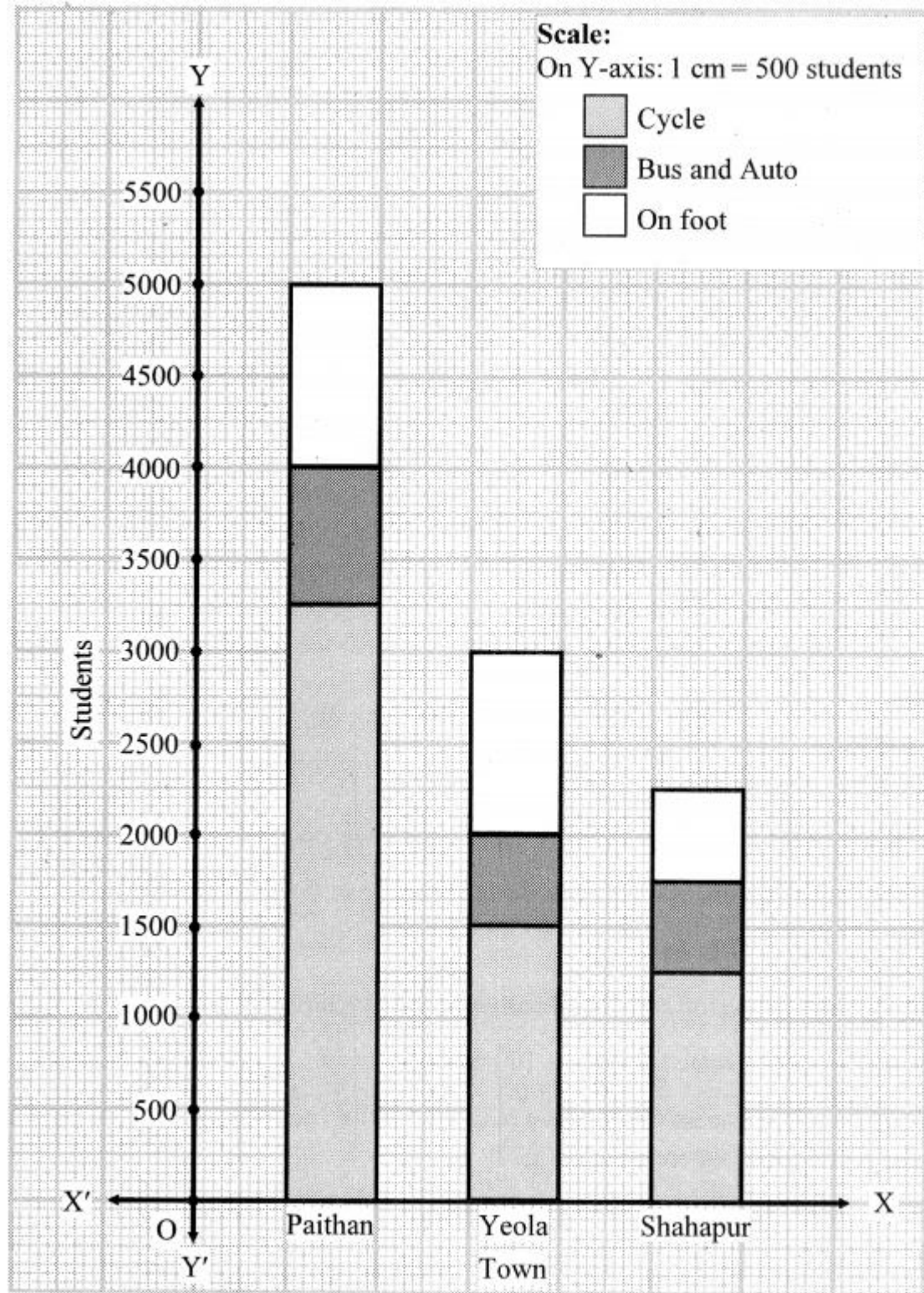
Means of commutation\Town	Paithan	Yeola	Shahapur
Cycle	3250	1500	1250
Bus and auto	750	500	500

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On foot	1000	1000	500
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Solution:

Means of commutation\Town	Paithan	Yeola	Shahapur
Cycle	3250	1500	1250
Bus and auto	750	500	500
On foot	1000	1000	500
Total	5000	3000	2250



Practice Set 11.3 8th Std Maths Answers Chapter 11 Statistics

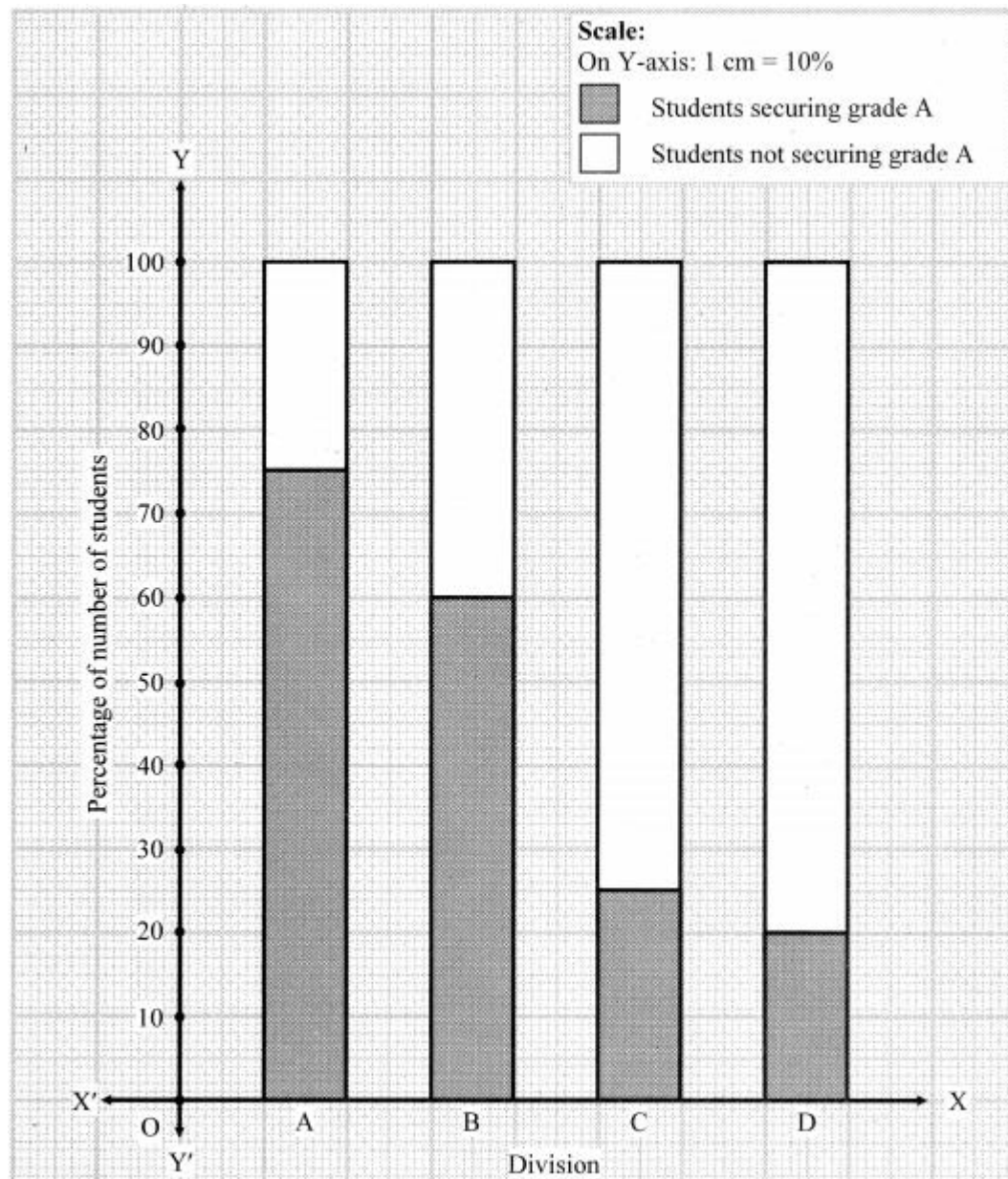
Exercise 11.3 Class 8 Question 1.

Show the following information by a percentage bar graph.

Division of standard 8	A	B	C	D
Number of students securing grade A	45	33	10	15
Total number of students	60	55	40	75

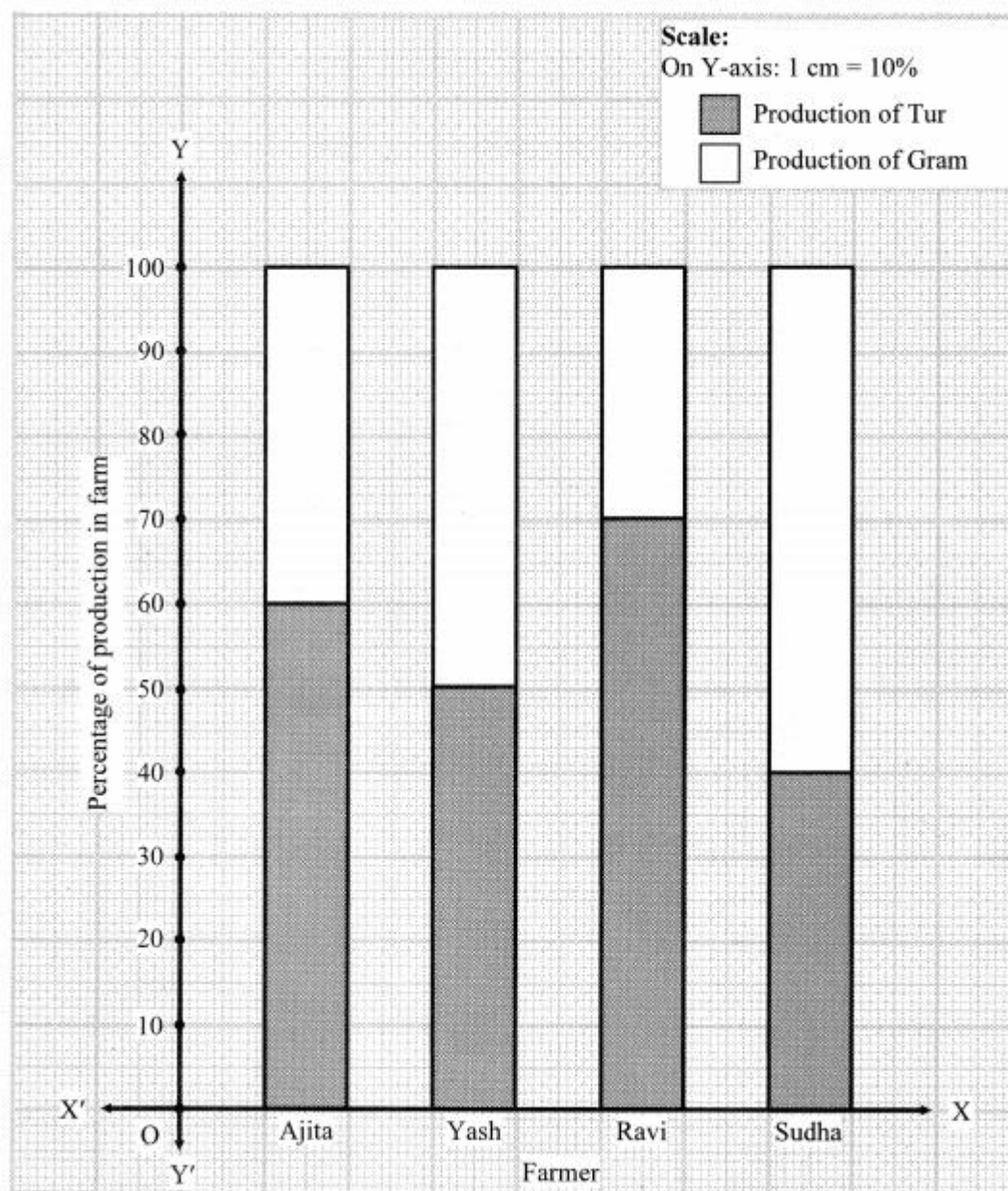
Solution:

Division of standard 8	A	B	C	D
Number of students securing grade A	45	33	10	15
Total number of students	60	55	40	75
Percentage of students securing grade A	75%	60%	25%	20%
Percentage of students not securing grade A	25%	40%	75%	80%



Statistics for Class 8 Question 2.

Observe the following graph and answer the questions.



1. State the type of the bar graph.
2. How much percent is the Tur production to total production in Ajita's farm?
3. Compare the production of Gram in the farms of Yash and Ravi and state whose percentage of production is more and by how much?
4. Whose percentage production of Tur is the least?
5. State production percentages of Tur and Gram in Sudha's farm.

Solution:

1. The given graph is a percentage bar graph.
2. Percent of tur production to the total production in Ajita's farm is 60%.
3. Production of Gram in the farm of Yash = 50%
Production of Gram in the farm of Ravi = 30%

∴ Difference in the production = 50% – 30% = 20%

∴ Yash's production of Gram is more and by 20%.

4. Sudha's percentage production of Tur is the least.

5. Production percentages of Tur and Gram in Sudha's farm are 40% and 60% respectively.

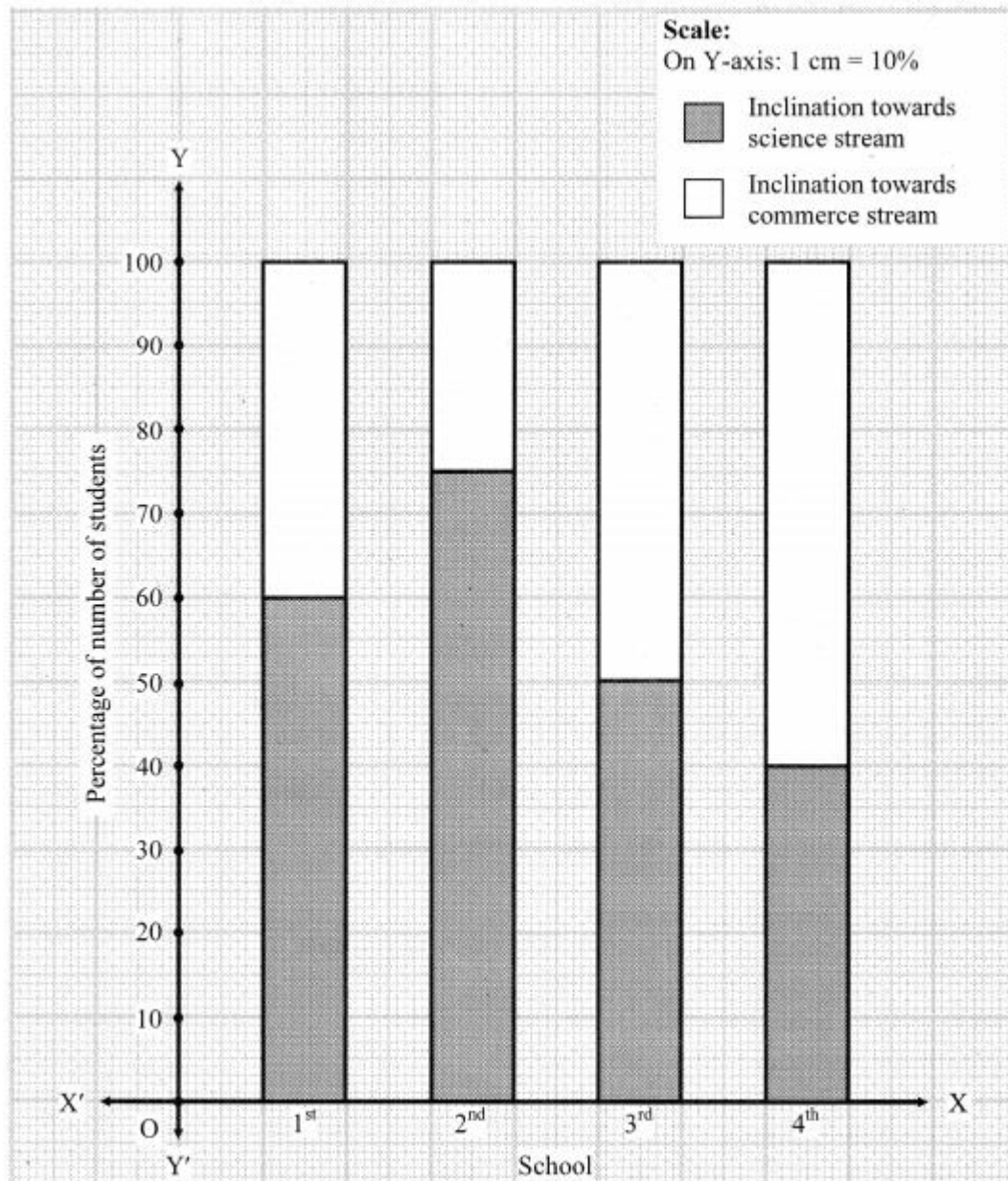
8th Standard Statistics Question 3.

The following data is collected in a survey of some students of 10th standard from some schools. Draw the percentage bar graph of the data.

School	1st	2nd	3rd	4th
Inclination towards science stream	90	60	25	16
Inclination towards commerce stream	60	20	25	24

Solution:

School	1st	2nd	3rd	4th
Inclination towards science stream	90	60	25	16
Inclination towards commerce stream	60	20	25	24
Total number of students	150	80	50	40
Percentage of students having inclination towards science stream	60%	75%	50%	40%
Percentage of students having inclination towards commerce stream	40%	25%	50%	60%



Maharashtra Board Class 8 Maths Chapter 11 Statistics Practice Set 11.3 Intext Questions and Activities

Statistics 8th Class Question 1.

Compare and discuss a percentage bar diagram and a subdivided bar diagram. Use it to learn the graphs in the subjects like Science, Geography. (Textbook pg, no. 74)

Solution:

[Students should attempt the above activity on their own.]