EduSahara™ Worksheet

Name : Chapter Based Worksheet

Chapter : Lines and Angles

Grade : ICSE Grade VIII

1. Which of the following are true?

a) Each numerical figure in a data set is called an observation.
b) The true lower limit of the exclusive form class interval 50 - 60 is 50.
c) The difference between the true upper limit and true lower limit is called the class mark.
d) The number of times a particular observation occurs is called its frequency.
e) The true lower limit of the inclusive form class interval 50 - 60 is 50.

(i) {c,e,d} (ii) {e,b} (iii) {c,a} (iv) {c,a,b} (v) {a,b,d}

2. The weights (in gm) of 19 fruits are as follows. Form the grouped frequency table in inclusive form by taking class size 50.

305 262 234 343 239 271 398 347 373 236 236 229 338 256 358 249 387 229 362

(i)

Weight (in gm)	229 - 278	279 - 328	329 - 378	379 - 428
No. of Fruits	10	5	6	2

(ii)

Weight (in gm)	229 - 278	279 - 328	329 - 378	379 - 428
No. of Fruits	2	1	6	10

(iii)

Weight (in gm)	229 - 278	279 - 328	329 - 378	379 - 428
No. of Fruits	10	1	8	2

(iv)

Weight (in gm)	229 - 278	279 - 328	329 - 378	379 - 428
No. of Fruits	10	6	1	2

(v)

Weight (in gm)	229 - 278	279 - 328	329 - 378	379 - 428
No. of Fruits	10	1	6	2

3. Identify the cumulative frequency of the given grouped data.

class interval	42 - 49	50 - 57	58 - 65	66 - 73	74 - 81	82 - 89	90 - 97	98 - 105
frequency	8	9	8	9	14	18	9	24

(i)

class interval	**Cumulative Frequency**
42 - 49	8
50 - 57	17
58 - 65	25
66 - 73	34
74 - 81	48
82 - 89	66
90 - 97	75
98 - 105	99

(ii)

class interval	**Cumulative Frequency**
42 - 49	8
50 - 57	17
58 - 65	29
66 - 73	38
74 - 81	52
82 - 89	70
90 - 97	79
98 - 105	103

(iii)

class interval	**Cumulative Frequency**
42 - 49	8
50 - 57	17
58 - 65	25
66 - 73	34
74 - 81	50
82 - 89	68
90 - 97	77
98 - 105	101

(iv)

class interval	**Cumulative Frequency**
42 - 49	8
50 - 57	32
58 - 65	40
66 - 73	49
74 - 81	63
82 - 89	81
90 - 97	90
98 - 105	99

(v)

class interval	**Cumulative Frequency**
42 - 49	8
50 - 57	17
58 - 65	26
66 - 73	34
74 - 81	48
82 - 89	66
90 - 97	75
98 - 105	99

4. Which of the following class intervals are in inclusive form?

a) 55 - 64 , 65 - 74 , 75 - 84,...
b) 25 - 34 , 35 - 44 , 45 - 54,...
c) 24.5 - 34.5 , 34.5 - 44.5 , 44.5 - 54.5...
d) 52 - 61 , 61 - 70 , 70 - 79...
e) 25 - 34 , 34 - 43 , 43 - 52,...

(i) {e,c,a} (ii) {a,b} (iii) {d,b} (iv) {d,b,a} (v) {c,a}

5. Construct a frequency distribution table from the following cumulative frequency distribution

Class-Interval	Cumulative Frequency
19 - 23	15
24 - 28	29
29 - 33	41
34 - 38	51
39 - 43	59

(i)

Class-Interval	19 - 23	24 - 28	29 - 33	34 - 38	39 - 43
Frequency	15	14	12	10	8

(ii)

Class-Interval	19 - 23	24 - 28	29 - 33	34 - 38	39 - 43
Frequency	15	16	12	10	8

(iii)

Class-Interval	19 - 23	24 - 28	29 - 33	34 - 38	39 - 43
Frequency	15	8	12	10	14

(iv)

Class-Interval	19 - 23	24 - 28	29 - 33	34 - 38	39 - 43
Frequency	15	14	9	10	8

(v)

Class-Interval	19 - 23	24 - 28	29 - 33	34 - 38	39 - 43
Frequency	15	12	14	10	8

6. The daily wages (in rupees) of 17 workers in a factory are given below.
Represent the data in the form of a frequency distribution in exclusive form taking class size 20.

278 216 204 297 238 272 253 296 223 251 249 277 204 257 226 200 204

(i)

Wages (in rupees)	200 - 220	220 - 240	240 - 260	260 - 280	280 - 300
No. of Workers	5	3	6	3	2

(ii)

Wages (in rupees)	200 - 220	220 - 240	240 - 260	260 - 280	280 - 300
No. of Workers	5	4	3	3	2

(iii)

Wages (in rupees)	200 - 220	220 - 240	240 - 260	260 - 280	280 - 300
No. of Workers	5	2	4	3	3

(iv)

Wages (in rupees)	200 - 220	220 - 240	240 - 260	260 - 280	280 - 300
No. of Workers	5	7	4	3	2

(v)

Wages (in rupees)	200 - 220	220 - 240	240 - 260	260 - 280	280 - 300
No. of Workers	5	3	4	3	2

7. Given class interval table, find the sum of frequencies.

Class-Interval	39 - 45	46 - 52	53 - 59	60 - 66	67 - 73	74 - 80	81 - 87	88 - 94
Frequency	15	25	21	15	8	7	8	29

(i) 126 (ii) 129 (iii) 128 (iv) 127 (v) 130

8. Identify the cumulative frequency of the given grouped data.

class interval	32 - 40	40 - 48	48 - 56	56 - 64	64 - 72	72 - 80	80 - 88
frequency	19	21	19	9	6	24	23

(i)

class interval	Cumulative Frequency
32 - 40	19
40 - 48	40
48 - 56	59
56 - 64	65
64 - 72	71
72 - 80	95
80 - 88	118

(ii)

class interval	Cumulative Frequency
32 - 40	19
40 - 48	40
48 - 56	59
56 - 64	68
64 - 72	74
72 - 80	98
80 - 88	121

(iii)

class interval	Cumulative Frequency
32 - 40	19
40 - 48	40
48 - 56	63
56 - 64	72
64 - 72	78
72 - 80	102
80 - 88	125

(iv)

class interval	Cumulative Frequency
32 - 40	19
40 - 48	38
48 - 56	59
56 - 64	68
64 - 72	74
72 - 80	98
80 - 88	121

(v)

class interval	Cumulative Frequency
32 - 40	19
40 - 48	42
48 - 56	61
56 - 64	70
64 - 72	76
72 - 80	100
80 - 88	121

9. If the sample data with range 60 has to be divided into 10 class intervals, then the length of the class is

(i) 9 (ii) 5 (iii) 6 (iv) 7 (v) 4

10. The weights (in gm) of 16 fruits are as follows. Form the grouped frequency table in exclusive form by taking class size 50. 336 335 391 306 318 290 383 324 271 321 370 313 310 381 325 281

(i)

Weight (in gm)	271 - 321	321 - 371	371 - 421
No. of Fruits	7	10	3

(ii)

Weight (in gm)	271 - 321	321 - 371	371 - 421
No. of Fruits	7	9	3

(iii)

Weight (in gm)	271 - 321	321 - 371	371 - 421
No. of Fruits	6	7	3

(iv)

Weight (in gm)	271 - 321	321 - 371	371 - 421
No. of Fruits	7	6	3

(v)

Weight (in gm)	271 - 321	321 - 371	371 - 421
No. of Fruits	3	6	7

11. The class boundaries of the class with frequency x is

Class-Interval	Frequency
13 - 18	18
18 - 23	18
23 - 28	x
28 - 33	13
33 - 38	25

(i) 23.5-27.5 (ii) 23-28 (iii) 23-28.5 (iv) 22.5-28.5 (v) 22.5-28

12. In exclusive form representation, the observation 20 falls in which class?

(i) 10-20 (ii) 30-40 (iii) 15-20 (iv) 25-35 (v) 20-30

13. The mid value of the class with frequency x is

Class-Interval	Frequency
20 - 30	25
31 - 41	x
42 - 52	4
53 - 63	18
64 - 74	24

(i) 33 (ii) 35 (iii) 38 (iv) 36 (v) 37

14. Given table in inclusive form, convert it into exclusive form.

Class-Interval	19 - 29	30 - 40	41 - 51	52 - 62	63 - 73	74 - 84
Frequency	21	24	21	32	49	17

(i)

Class-Interval	18.5 - 28.5	29.5 - 39.5	40.5 - 50.5	51.5 - 61.5	62.5 - 72.5	73.5 - 83.5
Frequency	21	24	21	32	49	17

(ii)

Class-Interval	19.5 - 29.5	30.5 - 40.5	41.5 - 51.5	52.5 - 62.5	63.5 - 73.5	74.5 - 84.5
Frequency	21	24	21	32	49	17

(iii)

Class-Interval	19 - 29	29 - 39	39 - 49	49 - 59	59 - 69	69 - 79
Frequency	33	14	29	31	39	21

(iv)

Class-Interval	18.5 - 29.5	29.5 - 40.5	40.5 - 51.5	51.5 - 62.5	62.5 - 73.5	73.5 - 84.5
Frequency	21	24	21	32	49	17

(v)

Class-Interval	18.5 - 29	29.5 - 40	40.5 - 51	51.5 - 62	62.5 - 73	73.5 - 84
Frequency	21	24	21	32	49	17

15. Which of the following are continuous variables?

a) Rainfall at a place over a month
b) Temperature at a place over a month
c) Number of workers in a factory
d) Marks obtained by student in a particular subject
e) Number of players in a team

(i) {a,b} (ii) {d,b} (iii) {d,b,a} (iv) {c,a} (v) {e,c,a}

The marks obtained by 18 students in an examination are given below.

16. Represent the data in the form of a frequency distribution table in exclusive form taking class size 8.

42 41 50 59 53 80 44 68 61 72 67 66 44 65 45 68 47 40

(i)

Marks	40 - 48	48 - 56	56 - 64	64 - 72	72 - 80	80 - 88
No. of Students	7	1	2	5	1	2

(ii)

Marks	40 - 48	48 - 56	56 - 64	64 - 72	72 - 80	80 - 88
No. of Students	7	2	6	5	1	1

(iii)

Marks	40 - 48	48 - 56	56 - 64	64 - 72	72 - 80	80 - 88
No. of Students	7	2	2	5	1	1

(iv)

Marks	40 - 48	48 - 56	56 - 64	64 - 72	72 - 80	80 - 88
No. of Students	7	2	2	1	1	1

17. Convert the continuous form of the class interval 48.5 - 53.5 to discontinuous form

(i) 49-53 (ii) 49-53.5 (iii) 48.5-53.5 (iv) 49.5-52.5 (v) 48.5-53

18. The class mark of the class with frequency x is

Class-Interval	**Frequency**
18 - 23	8
24 - 29	4
30 - 35	13
36 - 41	6
42 - 47	x

(i) $\frac{91}{2}$ (ii) $\frac{87}{2}$ (iii) $\frac{177}{4}$ (iv) $\frac{89}{2}$ (v) 45

19. If the sum of the following frequency distribution is 50 , find the value of 'x'.

Class-Interval	**Frequency**
20 - 29	5
30 - 39	10
40 - 49	10
50 - 59	8
60 - 69	x
70 - 79	6
80 - 89	5

(i) 6 (ii) 5 (iii) 9 (iv) 4 (v) 7

20. If the upper and lower limit of class interval are 32 and 27 respectively, then the class interval is

(i) 27-32.5 (ii) 26.5-32.5 (iii) 26.5-32 (iv) 27-32 (v) 27.5-31.5

21. Construct a frequency distribution table from the following cumulative frequency distribution

Class-Interval	Cumulative Frequency
15 - 22	8
22 - 29	15
29 - 36	21
36 - 43	32
43 - 50	47
50 - 57	58
57 - 64	73

(i)

Class-Interval	15 - 22	22 - 29	29 - 36	36 - 43	43 - 50	50 - 57	57 - 64
Frequency	8	7	6	11	15	11	15

(ii)

Class-Interval	15 - 22	22 - 29	29 - 36	36 - 43	43 - 50	50 - 57	57 - 64
Frequency	8	7	3	11	15	11	15

(iii)

Class-Interval	15 - 22	22 - 29	29 - 36	36 - 43	43 - 50	50 - 57	57 - 64
Frequency	8	6	7	11	15	11	15

(iv)

Class-Interval	15 - 22	22 - 29	29 - 36	36 - 43	43 - 50	50 - 57	57 - 64
Frequency	8	15	6	11	15	11	7

(v)

Class-Interval	15 - 22	22 - 29	29 - 36	36 - 43	43 - 50	50 - 57	57 - 64
Frequency	8	7	6	13	15	11	15

22. Following are the ages (in years) of patients getting medical treatment in a hospital. Identify the cumulative frequency of the given grouped data.

Age (in years)	10 - 20	20 - 30	30 - 40	40 - 50	50 - 60
No. of Patients	59	38	86	31	90

(i)

Age (in years)	Cumulative Frequency
10 - 20	59
20 - 30	97
30 - 40	186
40 - 50	217
50 - 60	307

(ii)

Age (in years)	Cumulative Frequency
10 - 20	59
20 - 30	101
30 - 40	187
40 - 50	218
50 - 60	308

(iii)

Age (in years)	Cumulative Frequency
10 - 20	59
20 - 30	145
30 - 40	183
40 - 50	214
50 - 60	304

(iv)

Age (in years)	Cumulative Frequency
10 - 20	59
20 - 30	149
30 - 40	235
40 - 50	266
50 - 60	304

(v)

Age (in years)	Cumulative Frequency
10 - 20	59
20 - 30	97
30 - 40	183
40 - 50	214
50 - 60	304

23. If the length of the class is 9, then the number of class intervals needed to represent data with range 60 is

(i) 8 (ii) 7 (iii) 6 (iv) 5 (v) 10

24. The class boundaries of 16 - 22 which is in inclusive form are

(i) 15-23 (ii) 16-22 (iii) 15.5-23 (iv) 15.5-22.5 (v) 15-22.5

25. The true lower limit and true upper limit of the class with frequency x is

Class-Interval	Frequency
32 - 37	x
37 - 42	28
42 - 47	10
47 - 52	24
52 - 57	4

(i) 32-37.5 (ii) 31.5-37.5 (iii) 32-37 (iv) 32.5-36.5 (v) 31.5-37

Assignment Key

1) (v)	2) (v)	3) (i)	4) (ii)	5) (i)	6) (v)
7) (iii)	8) (ii)	9) (iii)	10) (iv)	11) (ii)	12) (v)
13) (iv)	14) (iv)	15) (i)	16) (iii)	17) (i)	18) (iv)
19) (i)	20) (iv)	21) (i)	22) (v)	23) (ii)	24) (iv)
25) (iii)					