

Practice Computational Problem Solutions

1. Ranked distribution

291
289
289
261
249
245
240
233
222
200

2. a) $\text{range} = 1200 - 800 = 400$

b) $i = \frac{400}{20} = 20$

c) $i = \frac{400}{12} = 33.33, 36$

d) $\text{number of intervals} = \frac{400}{30} = 13.33, 14$

e) $\text{number of intervals} = \frac{400}{50} = 8$

3. $\text{range} = 31 - 1 = 30$ $\text{number of intervals} = \frac{30}{3} = 10$

4. $\text{range} = 51 - 12 = 39$ $i = \frac{39}{10} = 3.9, 4$

<i>Real Limits</i>	<i>Apparent Limits</i>	<i>f</i>	<i>rel f</i>	<i>cum f</i>	<i>cum rel f</i>	<i>cum %</i>
29.5 – 32.5	30 – 32	1	.017	60	1.00	100
26.5 – 29.5	27 – 29	2	.033	59	.983	98.3
23.5 – 26.5	24 – 26	3	.050	57	.950	95.0
20.5 – 23.5	21 – 23	6	.100	54	.900	90.0
17.5 – 20.5	18 – 20	6	.100	48	.800	80.0
14.5 – 17.5	15 – 17	7	.117	42	.700	70.0
11.5 – 14.5	12 – 14	9	.150	35	.583	58.3
8.5 – 11.5	9 – 11	6	.100	26	.433	43.3
5.5 – 8.5	6 – 8	9	.150	20	.333	33.3
2.5 – 5.5	3 – 5	5	.083	11	.183	18.3
0 – 2.5	0 – 2	6	.100	6	.100	10.0

<i>Real Limits</i>	<i>Apparent Limits</i>	<i>f</i>	<i>rel f</i>	<i>cum f</i>	<i>cum rel f</i>	<i>cum %</i>
47.5 – 51.5	48 – 51	3	.075	40	1.00	100
43.5 – 47.5	44 – 47	2	.050	37	.925	92.5
39.5 – 43.5	40 – 43	5	.125	35	.875	87.5
35.5 – 39.5	36 – 39	8	.200	30	.750	75.0
31.5 – 35.5	32 – 35	2	.050	22	.550	55.0
27.5 – 31.5	28 – 31	7	.175	20	.500	50.0
23.5 – 27.5	24 – 27	3	.075	13	.325	32.5
19.5 – 23.5	20 – 23	4	.100	10	.250	25.0
15.5 – 19.5	16 – 19	2	.050	6	.150	15.0
11.5 – 15.5	12 – 15	4	.10	4	.100	10.0

5. range = 65 – 11 = 54 number of intervals = $\frac{54}{5} = 10.8, \sim 11$

<i>Real Limits</i>	<i>Apparent Limits</i>	<i>f</i>	<i>rel f</i>	<i>cum f</i>	<i>cum rel f</i>	<i>cum %</i>
64.5 – 69.5	65 – 69	1	.02	50	1.00	100
59.5 – 64.5	60 - 64	2	.04	49	.98	98
54.5 – 59.5	55 – 59	2	.04	47	.94	94
49.5 – 54.5	50 – 54	5	.10	45	.90	90
44.5 – 49.5	45 – 49	0	0	40	.80	80
39.5 – 44.5	40 – 44	5	.10	40	.80	80
34.5 – 39.5	35 – 39	4	.08	35	.70	70
29.5 – 34.5	30 – 34	8	.16	31	.62	62
24.5 – 29.5	25 – 29	6	.12	23	.46	46
19.5 – 24.5	20 – 24	8	.16	17	.34	34
14.5 – 19.5	15 – 19	4	.08	9	.18	18
9.5 – 14.5	10 - 14	5	.10	5	.10	10