

September 9 Warm Up

| Class | Frequency |
|-------|-----------|
| 26-34 | 2 |
| 35-43 | 5 |
| 44-52 | 12 |
| 53-61 | 18 |
| 62-70 | 11 |
| 71-79 | 1 |
| 80-88 | 1 |

- 1) Class Width _____
- 2) Midpoint of each class _____
- 3) Sample Size _____
- 4) Relative Frequencies _____
- 5) Lower Limits _____
- 6) Upper Limits _____
- 7) Cumulative Frequencies _____
- 8) Boundaries _____
- 9) Which graph uses the midpoints on x axis?
- 10) Which graph uses the boundaries on x axis?
- 11) The OGIVE uses the lower boundary of the next class for the frequencies listed before

Sep 8-10:08 AM

17.

| Class | Frequency, f | Midpoint | Relative frequency | Cumulative frequency |
|----------------|--------------|----------|------------------------------|----------------------|
| 20-30 | 19 | 25 | 0.05 | 19 |
| 31-41 | 43 | 36 | 0.12 | 62 |
| 42-52 | 68 | 47 | 0.19 | 130 |
| 53-63 | 69 | 58 | 0.19 | 199 |
| 64-74 | 74 | 69 | 0.20 | 273 |
| 75-85 | 68 | 80 | 0.19 | 341 |
| 86-96 | 24 | 91 | 0.07 | 365 |
| $\sum f = 365$ | | | $\sum \frac{f}{n} \approx 1$ | |

$\frac{\sum \text{sum}}{f \text{ freq}}$
 n Sample size
 Relative frequency = $\frac{f}{n}$

18.

| Class | Frequency, f | Midpoint | Relative frequency | Cumulative frequency |
|-----------------|--------------|----------|------------------------|----------------------|
| 0-9 | 188 | 4.5 | 0.15 | 188 |
| 10-19 | 372 | 14.5 | 0.30 | 560 |
| 20-29 | 264 | 24.5 | 0.22 | 824 |
| 30-39 | 205 | 34.5 | 0.17 | 1029 |
| 40-49 | 83 | 44.5 | 0.07 | 1112 |
| 50-59 | 76 | 54.5 | 0.06 | 1188 |
| 60-69 | 32 | 64.5 | 0.03 | 1220 |
| $\sum f = 1220$ | | | $\sum \frac{f}{n} = 1$ | |

Sep 7-2:12 PM

30. Class width = $\frac{\text{Range}}{\text{Number of classes}} = \frac{530 - 30}{6} \approx 83.3 \Rightarrow 84$

| Class | Frequency, f | Midpoint | Relative frequency | Cumulative frequency |
|---------------|--------------|----------|------------------------|----------------------|
| 30-113 | 5 | 71.5 | 0.1724 | 5 |
| 114-197 | 7 | 155.5 | 0.2414 | 12 |
| 198-281 | 8 | 239.5 | 0.2759 | 20 |
| 282-365 | 2 | 323.5 | 0.0690 | 22 |
| 366-449 | 3 | 407.5 | 0.1034 | 25 |
| 450-533 | 4 | 491.5 | 0.1379 | 29 |
| $\sum f = 29$ | | | $\sum \frac{f}{n} = 1$ | |

Class with greatest frequency: 198-281
 Class with least frequency: 282-365

Sep 7-2:13 PM

32. Class width = $\frac{\text{Range}}{\text{Number of classes}} = \frac{51 - 32}{5} = 3.8 \Rightarrow 4$

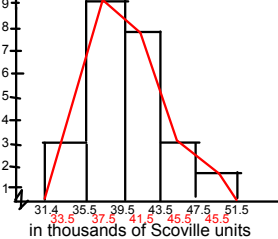
| Class | Frequency, f | Midpoint | Relative frequency | Cumulative frequency |
|---------------|--------------|----------|------------------------|----------------------|
| 32-35 | 3 | 33.5 | 0.1250 | 3 |
| 36-39 | 9 | 37.5 | 0.3750 | 12 |
| 40-43 | 8 | 41.5 | 0.3333 | 20 |
| 44-47 | 3 | 45.5 | 0.1250 | 23 |
| 48-51 | 1 | 49.5 | 0.0417 | 24 |
| $\sum f = 24$ | | | $\sum \frac{f}{n} = 1$ | |

Sep 12-10:00 AM

32

Pungencies of Peppers

Black represents boundaries for the Histogram
 Red represents midpoints for the Polygon Frequency



Someone looking at this histogram can see that most of the pungencies of the peppers were between 36000 and 43000 Scoville units and that the least of the pungencies were between 48000 and 51000

Sep 12-9:49 AM

34. Class width = $\frac{\text{Range}}{\text{Number of classes}} = \frac{2296 - 1250}{8} = 130.75 \Rightarrow 131$

| Class | Frequency, f | Midpoint | Relative frequency | Cumulative frequency |
|---------------|--------------|----------|------------------------|----------------------|
| 1250-1380 | 2 | 1315 | 0.10 | 2 |
| 1381-1511 | 3 | 1446 | 0.15 | 5 |
| 1512-1642 | 6 | 1577 | 0.30 | 11 |
| 1643-1773 | 1 | 1708 | 0.05 | 12 |
| 1774-1904 | 4 | 1839 | 0.20 | 16 |
| 1905-2035 | 2 | 1970 | 0.10 | 18 |
| 2036-2166 | 1 | 2101 | 0.05 | 19 |
| 2167-2297 | 1 | 2232 | 0.05 | 20 |
| $\sum f = 20$ | | | $\sum \frac{f}{n} = 1$ | |



Sample answer: The graph shows that the most frequent finishing times were from 1381 to 1642 seconds and from 1774 to 2035 seconds.

Sep 7-2:16 PM

36. Class width = $\frac{\text{Range}}{\text{Number of classes}} = \frac{14-6}{5} = 1.6 \Rightarrow 2$

| Class | Frequency, f | Midpoint | Relative frequency | Cumulative frequency |
|-------|----------------|----------|------------------------|----------------------|
| 6-7 | 3 | 6.5 | 0.12 | 3 |
| 8-9 | 10 | 8.5 | 0.38 | 13 |
| 10-11 | 6 | 10.5 | 0.23 | 19 |
| 12-13 | 6 | 12.5 | 0.23 | 25 |
| 14-15 | 1 | 14.5 | 0.04 | 26 |
| | $\sum f = 26$ | | $\sum \frac{f}{n} = 1$ | |

Years of Service

Class with greatest relative frequency: 8-9
Class with least relative frequency: 14-15

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38. Class width = $\frac{\text{Range}}{\text{Number of classes}} = \frac{462-138}{5} = 64.8 \Rightarrow 65$

| Class | Frequency, f | Midpoint | Relative frequency | Cumulative frequency |
|---------|----------------|----------|------------------------|----------------------|
| 138-202 | 12 | 170 | 0.46 | 12 |
| 203-267 | 6 | 235 | 0.23 | 18 |
| 268-332 | 4 | 300 | 0.15 | 22 |
| 333-397 | 1 | 365 | 0.04 | 23 |
| 398-462 | 3 | 430 | 0.12 | 26 |
| | $\sum f = 26$ | | $\sum \frac{f}{n} = 1$ | |

Triglyceride Levels

Class with greatest relative frequency: 138-202
Class with least relative frequency: 333-397

Sep 12-10:13 AM

40. Class width = $\frac{\text{Range}}{\text{Number of classes}} = \frac{57-16}{6} \approx 6.83 \Rightarrow 7$

| Class | Frequency, f | Relative frequency | Cumulative frequency |
|-------|----------------|------------------------|----------------------|
| 16-22 | 2 | 0.10 | 2 |
| 23-29 | 3 | 0.15 | 5 |
| 30-36 | 8 | 0.40 | 13 |
| 37-43 | 5 | 0.25 | 18 |
| 44-50 | 0 | 0.00 | 18 |
| 51-57 | 2 | 0.10 | 20 |
| | $\sum f = 20$ | $\sum \frac{f}{n} = 1$ | |

Daily Saturated Fat Intake

Sep 7-2:20 PM

42. Class width = $\frac{\text{Range}}{\text{Number of classes}} = \frac{70-26}{5} = 8.8 \Rightarrow 9$

| Class | Frequency, f | Midpoint | Relative frequency | Cumulative frequency |
|-------|----------------|----------|------------------------------|----------------------|
| 26-34 | 10 | 30 | 0.1786 | 11 |
| 35-43 | 17 | 39 | 0.3036 | 27 |
| 44-52 | 18 | 48 | 0.3214 | 45 |
| 53-61 | 6 | 57 | 0.1071 | 51 |
| 62-70 | 5 | 66 | 0.0893 | 56 |
| | $\sum f = 56$ | | $\sum \frac{f}{N} \approx 1$ | |

Ages of Signers

Sample answer: The graph shows that majority of signers were from 35 to 52 years old.

Sep 7-2:22 PM

44. (a) Class width = $\frac{\text{Range}}{\text{Number of classes}} = \frac{377-7}{8} = 46.25 \Rightarrow 47$

| Class | Frequency, f | Midpoint | Relative frequency | Cumulative frequency |
|---------|----------------|----------|------------------------|----------------------|
| 7-53 | 23 | 30 | 0.46 | 23 |
| 54-100 | 14 | 77 | 0.28 | 37 |
| 101-147 | 7 | 124 | 0.14 | 44 |
| 148-194 | 2 | 171 | 0.04 | 46 |
| 195-241 | 2 | 218 | 0.04 | 48 |
| 242-288 | 0 | 265 | 0.00 | 48 |
| 289-335 | 0 | 312 | 0.00 | 48 |
| 336-382 | 2 | 359 | 0.04 | 50 |
| | $\sum f = 50$ | | $\sum \frac{f}{N} = 1$ | |

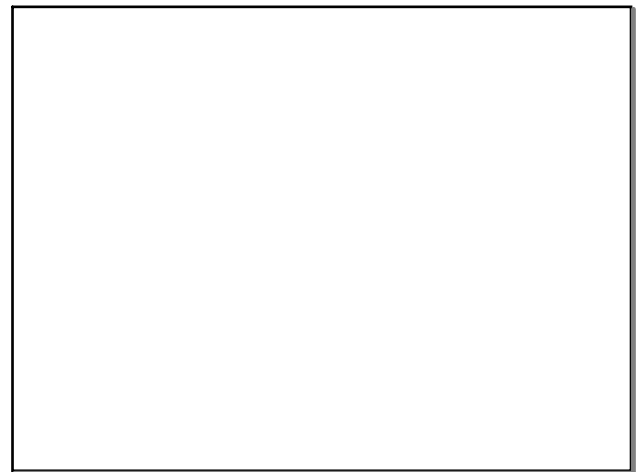
(b) Hospitals

(c) Hospitals

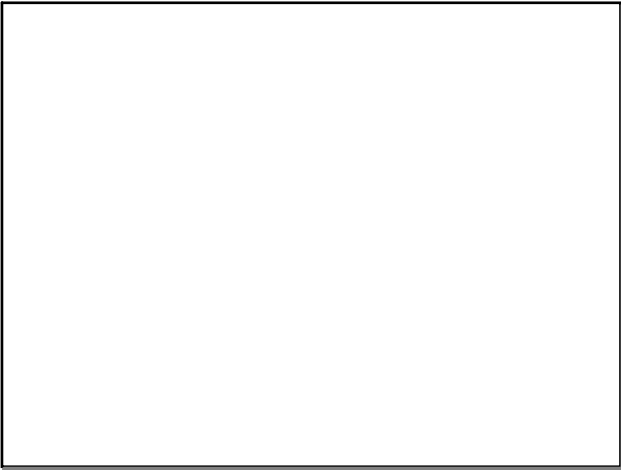
(d) Hospitals

(e) Hospitals

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Sep 12-10:05 AM



Sep 12-9:45 AM