

P37 1, 4, 6, 9, 10, 12

1. { 24, 28, 21, 37, 31, 29, 23, 22, 34, 31 }

21 22 23 24 28 29 31 31 34, 37 210

mean $\frac{280}{10} = 28$ median 28.5 mode 31

4. 142.8 160.8 151.3 139.1⁻⁷ 145.2
117.9[✓] 172.4 155.7 124.5⁻⁴ 126.4⁻⁵
133.8⁻⁶ 141.4⁻⁸ 119.4[✓] 121.2⁻³ 157.0

a) mean = $\frac{2089.1}{15} = 139.27$

b) median: 141.6 ~~mode~~

c) if 5lb were added to every crate, the average will raise by 5 lbs

5. Range $\frac{17.20}{-445}$ mean $\mu = \frac{69.95}{8} = 8.744$
\$12.85

$\sigma^2 = \frac{134.887}{8} = 16.861$ $\sigma = 2.99$

6. 152, 158, 200, 476, 579, 721

Range = 569 Variance $\mu = \frac{2786}{6} = 381$

$\sigma^2 = \frac{298160}{6} = 49793$ $\sigma = 223.144$

9. $\overline{66}, \overline{72}, \overline{70}, \overline{74}, \overline{64}, \overline{65}, \overline{60}, \overline{62}, \overline{66}, \overline{67},$
 $\overline{68}, \overline{71}, \overline{70}, \overline{72}, \overline{73}, \overline{65}, \overline{63}, \overline{62}, \overline{62}, \overline{61}$

a measures of spread

Range $74-60 = 14$ inches

$$\mu = \frac{1333}{20} = 66.65$$

| X | $X-\mu$ | $(X-\mu)^2$ |
|----|---------|-------------|
| 60 | -6.65 | 44.22 |
| 61 | -5.65 | 31.92 |
| 62 | -4.65 | 21.62 |
| 62 | -4.65 | 21.62 |
| 62 | -4.65 | 21.62 |
| 63 | -3.65 | 13.32 |
| 64 | -2.65 | 7.02 |
| 65 | -1.65 | 2.72 |
| 65 | -1.65 | 2.72 |
| 66 | -0.65 | .422 |
| 66 | -0.65 | .422 |
| 67 | 0.35 | .122 |
| 68 | 1.35 | 1.82 |
| 70 | 3.35 | 11.225 |
| 70 | 3.35 | 11.225 |
| 71 | 4.35 | 18.922 |
| 72 | 5.35 | 28.62 |
| 72 | 5.35 | 28.62 |
| 73 | 6.35 | 40.322 |
| 74 | 7.35 | 54.02 |

$$\sum (X-\mu)^2 = 361$$

$$\div n = \underline{18.08}$$

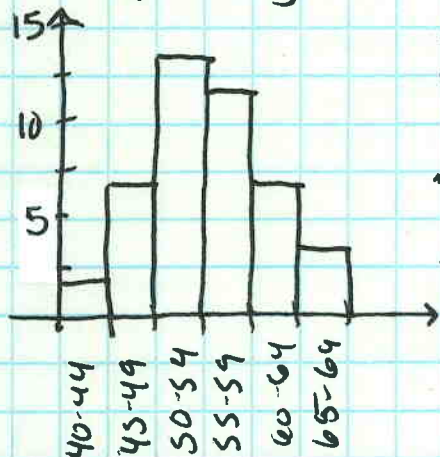
$$\sigma^2 = 18.087 \quad \sigma = 4.253$$

12. Ages → Low - 42 High - 69

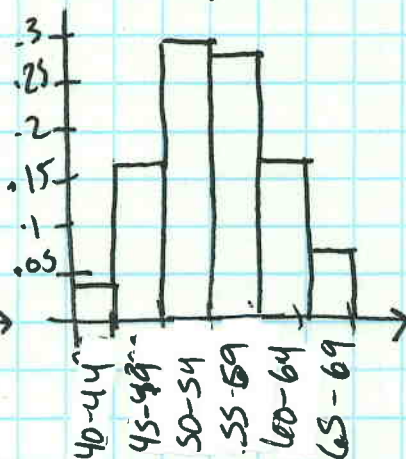
bins from 40-20

| | | | Freq. | Rel Freq | CF | CRF |
|------------------|-------|--|-------|----------------|----|------|
| 40-49 | 40-44 | | 2 | $2/44 = .045$ | 2 | .045 |
| 50-59 | 45-49 | | 7 | $7/44 = .159$ | 9 | .204 |
| 60-69 | 50-54 | | 13 | $13/44 = .295$ | 22 | .499 |
| 70-79 | 55-59 | | 12 | $12/44 = .273$ | 34 | .772 |
| | 60-64 | | 7 | $7/44 = .159$ | 41 | .931 |
| | 65-69 | | 3 | $3/44 = .068$ | 44 | .999 |

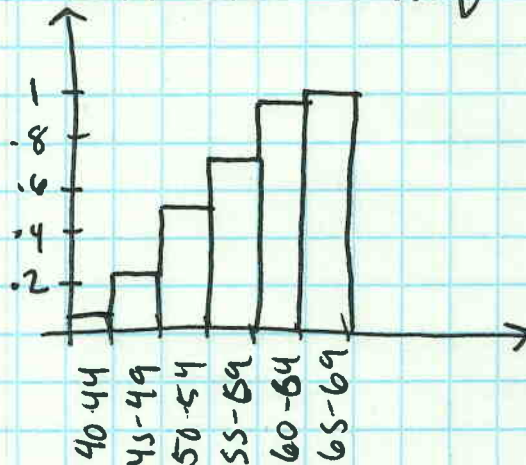
Frequency



Rel Freq.



Cumulative Rel Freq.



c. most presidents take office between ages 50-59.