

UNIVERSIDAD DEL SURESTE

ESTADISTICA DESCRIPTIVA

"ACTIVIDAD DOS"

DOCENTE: JORGE ENRIQUE ALBORES AGUILAR

ALUMNA: ERIKA DE JESUS  
MORALES AGUILAR

Segundo Cuatrimestre

GRUPO "A"

Tabla uno

|    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|
| 98 | 56 | 66 | 36 | 97 | 73 | 81 |
| 35 | 91 | 56 | 38 | 68 | 87 | 76 |
| 90 | 89 | 89 | 44 | 75 | 92 | 64 |
| 40 | 58 | 90 | 54 | 76 | 87 | 59 |
| 45 | 76 | 97 | 63 | 80 | 74 | 68 |
| 40 | 87 | 98 | 68 | 49 | 67 | 78 |
| 49 | 80 | 36 | 75 | 80 | 76 | 80 |
| 55 | 87 | 90 | 80 | 70 | 83 | 94 |

$$\text{Rango} = \frac{(98 - 35) + 1}{8}$$

$$\text{Rango} = \frac{64}{8} = 8$$

| Intervalo | $f_i$ | % $f_i$ | $f_{i\alpha}$ | % $f_{i\alpha}$ |
|-----------|-------|---------|---------------|-----------------|
| 35-42     | 6     | 10.71%  | 6             | 10.71%          |
| 43-50     | 4     | 7.14%   | 10            | 17.85%          |
| 51-58     | 5     | 8.92%   | 15            | 26.78%          |
| 59-66     | 4     | 7.14%   | 19            | 33.92%          |
| 67-74     | 7     | 12.5%   | 26            | 46.42%          |
| 75-82     | 13    | 23.21%  | 39            | 69.64%          |
| 83-90     | 10    | 17.85%  | 49            | 87.5%           |
| 91-98     | 7     | 12.5%   | 56            | 100%            |

**Cuartiles**

**Deciles**

$$Q_n = Lit + \frac{kn}{H} - fia - 1$$

$$D_n = Lit + \frac{n}{10} - fia - 1$$

$$\textcircled{1} Q_1 = \frac{56}{4} (1)$$

$$\textcircled{1} D_1 = \frac{56}{10} (1)$$

$$Q_1 = \frac{56}{4} = 14$$

$$D_1 = \frac{56}{10} = 5.6$$

$$Q_1 = Lit + \frac{kn}{H} - fia - 1$$

$$D_1 = Lit + \frac{n}{10} - fia - 1$$

$$Q_1 = \frac{51 + 14 - 10.7}{5}$$

$$D_1 = \frac{35 + 5.6 - 0.7}{6}$$

$$Q_1 = 56.6$$

$$D_1 = 41.53$$

$$\textcircled{2} Q_2 = \frac{56}{4} (2)$$

$$\textcircled{2} D_2 = \frac{56}{10} (2)$$

$$Q_2 = \frac{112}{4} = 28$$

$$D_2 = \frac{112}{10} = 11.2$$

$$Q_2 = Lit + \frac{kn}{H} - fia - 1$$

$$D_2 = Lit + \frac{n}{10} - fia - 1$$

$$Q_2 = \frac{75 + 28 - 26.7}{13}$$

$$D_2 = \frac{51 + 11.2 - 10.7}{5}$$

$$D_2 = 52.68$$

$$\textcircled{3} Q_3 = \frac{56}{4} (3)$$

$$\textcircled{3} D_3 = \frac{56}{10} (3)$$

$$Q_3 = \frac{168}{4} = 42$$

$$D_3 = \frac{168}{10} = 16.8$$

$$Q_3 = Lit + \frac{kn}{H} - fia - 1$$

$$D_3 = Lit + \frac{n}{10} - fia - 1$$

$$Q_3 = \frac{83 + 42 - 39.7}{10}$$

$$D_3 = \frac{59 + 16.8 - 15.7}{4}$$

$$Q_3 = 85.1$$

$$D_3 = 62.15$$

$$\textcircled{4} D_4 = \frac{56}{10} (4)$$

$$D_4 = \frac{224}{10} = 22.4$$

$$D_4 = Li + \frac{D}{10} - fia - 1$$

$$D_4 = \frac{67 + 22.4 - 19 \cdot 7}{7}$$

$$D_4 = 70.4$$

$$\textcircled{7} D_7 = \frac{56}{10} (7)$$

$$D_7 = \frac{392}{10} = 39.2$$

$$D_7 = Li + \frac{D}{10} - fia - 1$$

$$D_7 = \frac{83 + 39.2 - 39 \cdot 7}{10}$$

$$D_7 = 83.14$$

$$\textcircled{5} D_5 = \frac{56}{10} (5)$$

$$D_5 = \frac{280}{10} = 28$$

$$D_5 = Li + \frac{D}{10} - fia - 1$$

$$D_5 = \frac{75 + 28 - 26 \cdot 7}{13}$$

$$D_5 = 76.07$$

$$\textcircled{8} D_8 = \frac{56}{10} (8)$$

$$D_8 = \frac{448}{10} = 44.8$$

$$D_8 = Li + \frac{D}{10} - fia - 1$$

$$D_8 = \frac{83 + 44.8 - 39 \cdot 7}{10}$$

$$D_8 = 87.06$$

$$\textcircled{6} D_6 = \frac{56}{10} (6)$$

$$D_6 = \frac{336}{10} = 33.6$$

$$D_6 = Li + \frac{D}{10} - fia - 1$$

$$D_6 = \frac{75 + 33.6 - 26 \cdot 7}{13}$$

$$D_6 = 79.09$$

$$\textcircled{9} D_9 = \frac{56}{10} (9)$$

$$D_9 = \frac{504}{10} = 50.4$$

$$D_9 = Li + \frac{D}{10} - fia - 1$$

$$D_9 = \frac{91 + 50.4 - 49 \cdot 7}{7}$$

$$D_9 = 92.4$$

## Percentiles

$$P_n = L_i + \frac{\frac{n}{100} - f_{i-1}}{f_i} \cdot a_i$$

$$(15) P_{15} = \frac{56}{100} (15)$$

$$P_{15} = \frac{840}{100} = 8.4$$

$$P_{15} = \frac{43 + 8.4 - 6.7}{4}$$

$$P_{15} = 47.2$$

$$(22) P_{22} = \frac{56}{100} (22)$$

$$P_{22} = \frac{1,232}{100} = 12.32$$

$$P_{22} = \frac{51 + 12.32 - 10.7}{5}$$

$$P_{22} = 54.24$$

$$(31) P_{31} = \frac{56}{100} (31)$$

$$P_{31} = \frac{1,736}{100} = 17.36$$

$$P_{31} = \frac{59 + 17.36 - 15.7}{4}$$

$$P_{31} = 63.13$$

$$(44) P_{44} = \frac{56}{100} (44)$$

$$P_{44} = \frac{2,464}{100} = 24.64$$

$$P_{44} = \frac{87 + 24.64 - 19.7}{7}$$

$$P_{44} = 72.64$$

$$(52) P_{52} = \frac{56}{100} (52)$$

$$P_{52} = \frac{2,912}{100} = 29.12$$

$$P_{52} = \frac{75 + 29.12 - 26.7}{13}$$

$$P_{52} = 76.68$$

$$(54) P_{54} = \frac{56}{100} (54)$$

$$P_{54} = \frac{3,024}{100} = 30.24$$

$$P_{54} = \frac{75 + 30.24 - 26.7}{13}$$

$$P_{54} = 77.28$$

$$(82) P_{82} = \frac{56}{100} (82)$$

$$P_{82} = \frac{4,592}{100} = 45.92$$

$$P_{82} = \frac{83 + 45.92 - 39.7}{10}$$

$$P_{82} =$$

$$(95) P_{95} = \frac{56}{100} (95)$$

$$P_{95} = \frac{5,320}{100} = 53.2$$

$$P_{95} = \frac{91 + 53.2 - 49.7}{7}$$

$$P_{95} = 95.2$$

$$(89) P_{89} = \frac{56}{100} (89)$$

$$P_{89} = \frac{4,984}{100} = 49.84$$

$$P_{89} = \frac{91 + 49.84 - 49.7}{7}$$

$$P_{89} = 91.84$$

$$(92) P_{92} = \frac{56}{100} (92)$$

$$P_{92} = \frac{5,152}{100} = 51.52$$

$$P_{92} = \frac{91 + 51.52 - 49.7}{7}$$

$$P_{92} = 93.52$$

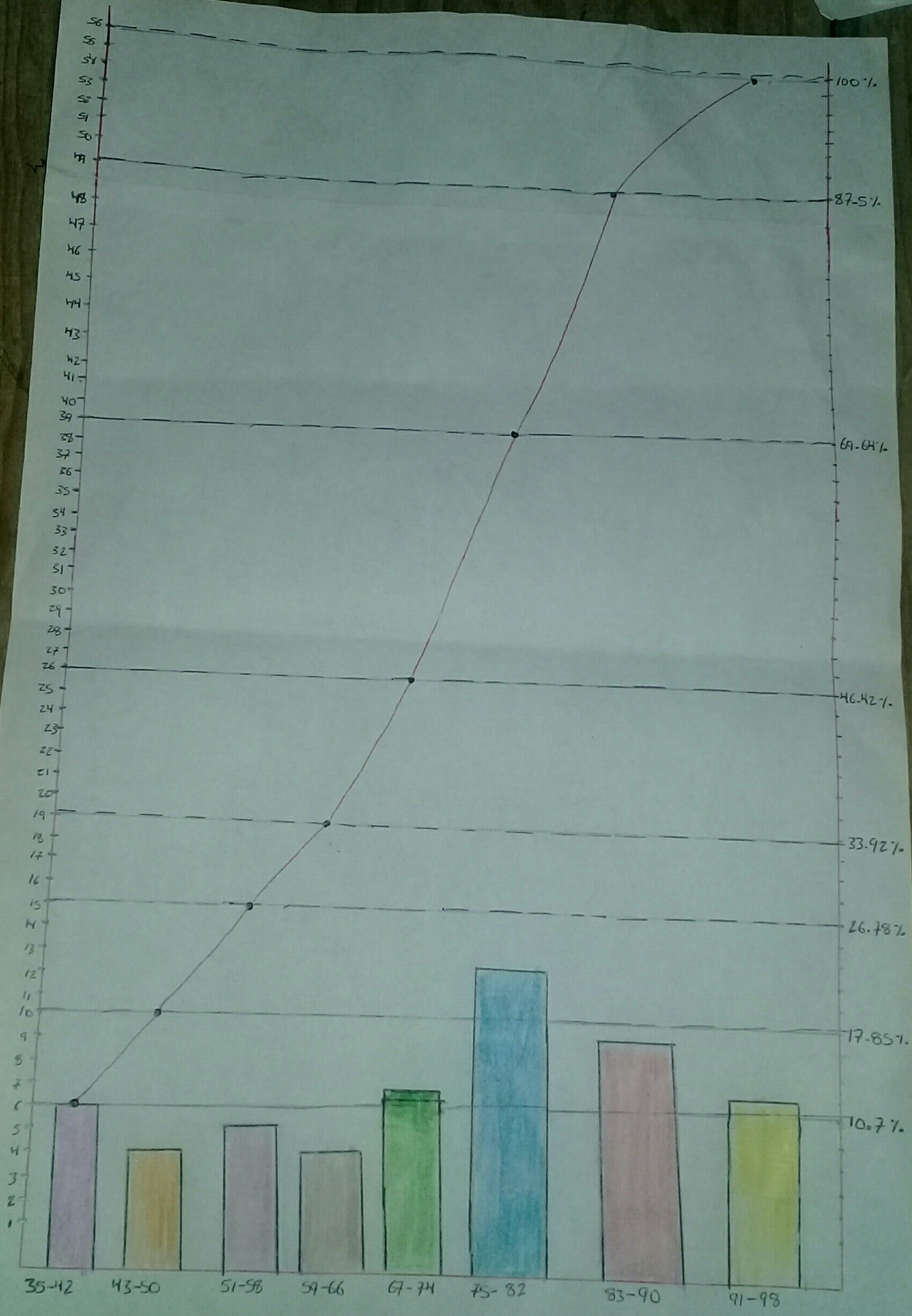


Tabla dos

|     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|
| 150 | 100 | 123 | 143 | 143 | 98  | 105 | 98  |
| 95  | 101 | 125 | 98  | 100 | 100 | 110 | 101 |
| 100 | 105 | 130 | 95  | 150 | 122 | 112 | 105 |
| 110 | 143 | 135 | 100 | 132 | 125 | 112 | 109 |
| 115 | 145 | 98  | 110 | 112 | 130 | 113 | 115 |
| 120 | 150 | 100 | 132 | 100 | 111 | 115 | 112 |
| 130 | 95  | 132 | 140 | 105 | 98  | 105 | 125 |
| 145 | 132 | 143 | 141 | 132 | 100 | 112 | 130 |

| Intervalo | $f_i$ | $\% \cdot f_i$ | $f_{i2}$ | $\% \cdot f_{i2}$ |
|-----------|-------|----------------|----------|-------------------|
| 95-101    | 18    | 28.125%        | 18       | 28.125%           |
| 102-108   | 5     | 7.81%          | 23       | 35.93%            |
| 109-115   | 14    | 21.87%         | 37       | 57.81%            |
| 116-122   | 2     | 3.125%         | 39       | 60.93%            |
| 123-129   | 4     | 6.25%          | 43       | 67.18%            |
| 130-136   | 10    | 15.62%         | 53       | 82.81%            |
| 137-143   | 6     | 9.375%         | 59       | 92.18%            |
| 144-150   | 5     | 7.81%          | 64       | 100%              |

$$\sum f_i = 64$$



Cuartiles

Deciles

$$① Q_1 = \frac{64}{4} (1)$$

$$Q_1 = \frac{64}{4} = 16$$

$$Q_1 = \frac{95 + 16 - 0.6}{18}$$

$$Q_1 = 100.33$$

$$② Q_2 = \frac{64}{4} (2)$$

$$Q_2 = \frac{128}{4} = 32$$

$$Q_2 = \frac{109 + 32 - 23.6}{14}$$

$$Q_2 = 112.8$$

$$③ Q_3 = \frac{64}{4} (3)$$

$$Q_3 = \frac{192}{4} = 48$$

$$Q_3 = \frac{130 + 48 - 43.6}{10}$$

$$Q_3 = 133$$

$$① D_1 = \frac{64}{10} (1)$$

$$D_1 = \frac{64}{10} = 6.4$$

$$D_1 = \frac{95 + 6.4 - 0.6}{18}$$

$$D_1 = 97.13$$

$$② D_2 = \frac{64}{10} (2)$$

$$D_2 = \frac{128}{10} = 12.8$$

$$D_2 = \frac{95 + 12.8 - 0.6}{18}$$

$$D_2 = 99.26$$

$$③ D_3 = \frac{64}{10} (3)$$

$$D_3 = \frac{192}{10} = 19.2$$

$$D_3 = \frac{102 + 19.2 - 18.6}{18}$$

$$D_3 = 102.4$$

$$④ D_4 = \frac{64}{10} (4)$$

$$D_4 = \frac{256}{10} = 25.6$$

$$D_4 = \frac{109 + 25.6 - 23.6}{14}$$

$$D_4 = 110.11$$

$$⑤ D_5 = \frac{64}{10} (5)$$

$$D_5 = \frac{320}{10} = 32$$

$$D_5 = \frac{109 + 32 - 23.6}{14}$$

$$D_5 = 112.85$$

$$⑥ D_6 = \frac{64}{10} (6)$$

$$D_6 = \frac{384}{10} = 38.4$$

$$D_6 = \frac{116 + 38.4 - 37.6}{2}$$

$$D_6 = 120.2$$

$$⑦ D_7 = \frac{64}{10} (7)$$

$$D_7 = \frac{448}{10} = 44.8$$

$$D_7 = \frac{130 + 44.8 - 43.6}{10}$$

$$D_7 = 131.08$$

$$⑧ D_8 = \frac{64}{10} (8)$$

$$D_8 = \frac{512}{10} = 51.2$$

$$D_8 = \frac{130 + 51.2 - 43.6}{10}$$

$$D_8 = 134.92$$

$$⑨ D_9 = \frac{64}{10} (9)$$

$$D_9 = \frac{576}{10} = 57.6$$

$$D_9 = \frac{137 + 57.6 - 53.6}{6}$$

$$D_9 = 141.6$$

## Percentiles

$$(15) P_{15} = \frac{64}{100} (15)$$

$$P_{15} = \frac{960}{100} = 9.6$$

$$P_{15} = \frac{95 + 9.6 - 0.6}{18}$$

$$P_{15} = 98.2$$

$$(54) P_{54} = \frac{64}{100} (54)$$

$$P_{54} = \frac{3,456}{100} = 34.56$$

$$P_{54} = \frac{109 + 34.56 - 23.6}{14}$$

$$P_{54} = 113.95$$

$$(21) P_{21} = \frac{64}{100} (21)$$

$$P_{21} = \frac{1,344}{100} = 13.44$$

$$P_{21} = \frac{95 + 13.44 - 0.6}{18}$$

$$P_{21} = 99.48$$

$$(84) P_{84} = \frac{64}{100} (84)$$

$$P_{84} = \frac{5,376}{100} = 53.76$$

$$P_{84} = \frac{137 + 53.76 - 53.6}{6}$$

$$P_{84} = 137.76$$

$$(42) P_{42} = \frac{64}{100} (42)$$

$$P_{42} = \frac{2,688}{100} = 26.88$$

$$P_{42} = \frac{109 + 26.88 - 23.6}{14}$$

$$P_{42} = 110.66$$

$$(92) P_{92} = \frac{64}{100} (92)$$

$$P_{92} = \frac{5,888}{100} = 58.88$$

$$P_{92} = \frac{137 + 58.88 - 53.6}{6}$$

$$P_{92} = 142.88$$

$$(51) P_{51} = \frac{64}{100} (51)$$

$$P_{51} = \frac{3,264}{100} = 32.64$$

$$P_{51} = \frac{109 + 32.64 - 23.6}{14}$$

$$P_{51} = 113.13$$

$$(97) P_{97} = \frac{64}{100} (97)$$

$$P_{97} = \frac{6,208}{100} = 62.08$$

$$P_{97} = \frac{144 + 62.08 - 59.6}{5}$$

$$P_{97} = 147.696$$

