Hallar los percentiles 21, 35 de los siguientes conjuntos de datos agrupados

a) Datos ordenados

21, 25, 28, 30, 49, 49, 57, 58, 60

$$K\frac{(n+1)}{100}$$

$$P_{21} = 21\frac{(9+1)}{100} = 21\frac{(10)}{100} = \frac{210}{100} = 2.1$$

$$P_{21} = 2.1 + (28-25)(0.1)$$

$$P_{21} = 25 + (3)(0.1)$$

$$P_{21} = 25 + 0.3 \quad P_{21} = \boxed{25.3}$$

Solución de P_{35}

$$k = \frac{(n+1)}{100}$$

$$P_{35} = 35(9+1) \quad 5.35(10) = \frac{350}{100} \quad P_3 = 3.5$$

$$P_{35} = 28 + (30 - 28(0.25))$$

$$P_{35} = 28(2)(0.5)$$

$$P_{35} = 4 + 0.5 = P_{35} = 4.5$$

6) Datos ordenados

12, 19, 23, 24, 41, 50, 80, 90

$$K\frac{(n+1)}{102}$$

$$P_{21} = 21\frac{(8+1)}{100} \quad 21\frac{(9)}{100} = \frac{189}{100} = P_{21} =$$

$$P_{21} = 12 + (19-12)(0.89)$$

$$P_{21} = 1 + (7)(0.89)$$

$$P_{21} = 12 + 6.2 = 18.3$$

Solución de P_{35}

$$\frac{K(n+1)}{100}$$

$$P_{35} = 35\frac{(8+1)}{100} = 35\frac{(9)}{100} = \frac{315}{100} \quad P_{35} = 3.15$$

$$P_{35} = 23 + (24 - 23)(0.15)$$

$$P_{35} = 23 + (1)(0.75)$$

$$P_{35} = 23 + 0.15 - P_{35} = 23.15$$

c) Datos ordenados

12, 14, 34, 41, 49, 50, 51, 62, 85, 89, 99, 10

$$K(n+1)$$

$$P_{21} = 21\frac{(12+1)}{100} = 21\frac{(13)}{100} = \frac{273}{100} - P_{21} = 2.7$$

$$P_{21} = 14 + (34 - 14)(0.13)$$

$$P_{21} = 14 + (20)(0.73)$$

$P_{21} = 14 + 14.6 = P_{21} = 88.6$

Solución P_{35}

$K\left(\frac{n+1}{100}\right)$

$P_{35} = 35\left(\frac{12+1}{100}\right) = 35\left(\frac{13}{100}\right) = \frac{455}{100} = P_3 = 4.5$

$P_{35} = 41 + (49 - 47(0.58)$

$P_{35} = 41 + (2)(0.5)$

$P_{35} = 41 + 1 = P_{35} = 48.1$