

Lección 7 / semana 16

Hallar los percentiles 21 y 35 de las sig series de datos no agrupados.

a) 28, 25, 30, 51, 60, 21, 49, 49, 58.
21, 25, 28, 30, 49, 49, 51, 58, 60

Solución P_{21}

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

$$P_{21} = 25 + (28 - 25)(0.1) \quad P_{21} = 25 + (3)(0.1) \\ P_{21} = 25 + 0.3 = 25.3 //$$

R// El percentil veintiuno es 25.3

Solución P_{35}

$$P_{35} = \frac{k(n+1)}{100} = P_{35} = \frac{35(9+1)}{100} = \frac{35(10)}{100} = \frac{350}{100} = P_{35} = 3.5$$

$$P_{35} = 28 + (30 - 28)(0.5) \quad P_{35} = 28 + (2)(0.5) \\ P_{35} = 28 + 1 = 29 //$$

R// El percentil treinta y cinco es 29.

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

Solución P_{21}

$$P_{21} = \frac{K(n+1)}{100} = \frac{21(8+1)}{100} = \frac{21(9)}{100} = \frac{189}{100} = P_{21} = 1.89$$

$$P_{21} = 12 + (19 - 12)(0.89) = P_{21} = 12 + (7)(0.89)$$

$$P_{21} = 12 + 6.23 = 18.23$$

R// El percentil veintuno es 18.23

Solución P_{35}

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

$$P_{35} = 23 + (24 - 23)(0.15) = P_{35} = 23 + (1)(0.15)$$

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

R// El percentil treinta y cinco es 23.15

c) ~~34, 14, 12, 51, 47, 50, 62, 89, 49, 99, 101, 85~~
~~12 14 34 47 49 50 51 62 85 89 99 101~~

Solución P_{21}

$$P_{21} = \frac{K(n+1)}{100} = \frac{21(12+1)}{100} = \frac{21(13)}{100} = \frac{273}{100} = P_{21} = 2.73$$

$$P_{21} = 14 + (34 - 14)(0.73) \quad P_{21} = 14(20)(0.73)$$

$$P_{21} = 14 + 14.6 = 28.6$$

R// El percentil veintiuno es 28.6

Solución P_{35}

$$P_{35} = \frac{K(n+1)}{100} = \frac{35(12+1)}{100} = \frac{35(13)}{100} = \frac{455}{100} = P_{35} = 4.55$$

$$P_{35} = 47(49 - 47)(0.55) \quad P_{35} = 47(2)(0.55)$$

$$P_{35} = 47 + 1.7 = 48.7$$

R// El percentil treinta y cinco es 48.7