TOPIC: PERCENTILES AND QUARTILES

Percentiles and Quartiles

New   *(Percentile of x)*

$$\frac{\# \; val.\, bel.\, x}{n} \cdot 100$$

◆ The **percentile** ($P_\%$) of a value is the percent of responses in a dataset _____ it.

▶ The 1st **quartile** (Q1) is the _____ percentile and the 3rd **quartile** (Q3) is the _____ percentile.

▶ The **Interquartile Range (IQR)** is the difference between _____ and _____.

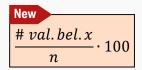**EXAMPLE**　Use the data on SAT scores to answer the following questions about percentiles.

SAT Scores											
1100	1130	1190	1200	1220	1240	1280	1320	1360	1420	1480	1550

(A) What is the percentile of a score of 1280?

(B) What score is at the 75th percentile, P_{75}?

(C) Find Q1 and Q3 for the dataset. Find the IQR.

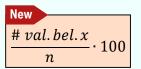**PRACTICE**　Using the data in the table below, compute Q1 and Q3.

Length of a Television Episode (Mins.)									
20	23	24	25	25	40	41	42	45	47

New

$$\frac{\# \; val.\, bel.\, x}{n} \cdot 100$$

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EXAMPLE Answer the questions below using the data in the table.

New

$$\frac{\# \, val.\,bel.\,x}{n} \cdot 100$$

Number of Songs in Playlists													
9	10	10	10	11	11	12	12	13	13	14	14	15	15
16	16	17	17	18	19	20	21	22	23	24	25	25	26

(**A**) Find P_{50}.

_____

(**B**) A playlist with 15 songs is in which percentile?

_____

(**C**) Find Q1 and Q3.