

# Percentiles and Quartiles

**Give a description of the three quartiles:**

Q<sub>1</sub>:

Q<sub>2</sub>:

Q<sub>3</sub>:

**Use the table to find the indicated percentile or quartile.**

Max Temperatures in F° for January 2008, Latitude: 47 55 N, Longitude: 97 6 W

4	13	25	21	33	41	33	23	20	17	16	17
17	-4	17	18	11	-5	-6	-3	4	8	-1	9
9	20	30	24	1	-10	9					

1) P<sub>10</sub>

6) P<sub>64</sub>

2) P<sub>26</sub>

7) P<sub>78</sub>

3) P<sub>31</sub>

8) Q<sub>1</sub>

4) P<sub>47</sub>

9) Q<sub>2</sub>

5) P<sub>55</sub>

10) Q<sub>3</sub>

**Extra Credit: What city is : 44 52 N, Longitude: 93 13 W?**

# Percentiles and Quartiles

## Give a description of the three quartiles:

$Q_1$ : Separates the bottom 25% of the sorted values from the top 75%.

$Q_2$ : Separates the bottom 50% of the sorted values from the top 50%.

$Q_3$ : Separates the bottom 75% of the sorted values from the top 25%.

## Use the table to find the indicated percentile or quartile.

Max Temperatures in  $F^\circ$  for January 2008, Latitude: 44 52 N, Longitude: 93 13 W

4	13	25	21	33	41	33	23	20	17	16	17
17	-4	17	18	11	-5	-6	-3	4	8	-1	9
9	20	30	24	1	-10	9					

**Getting the wrong answers? Did you remember to write the numbers in numerical order?**

1)  $P_{10} = -4$       $L = \frac{10}{100} \cdot 31 = 3.1$      Since L is not a whole number, round up to 4.  
Find the 4<sup>th</sup> number in the list = -4

2)  $P_{26} = 4$       $L = \frac{26}{100} \cdot 31 = 8.06$      Since L is not a whole number, round up to 9.  
Find the 9<sup>th</sup> number in the list = 4

3)  $P_{31} = 8$       $L = \frac{31}{100} \cdot 31 = 9.61$      Since L is not a whole number, round up to 10.  
Find the 10<sup>th</sup> number in the list = 8

4)  $P_{47} = 13$       $L = \frac{47}{100} \cdot 31 = 14.57$      Since L is not a whole number, round up to 15.  
Find the 15<sup>th</sup> number in the list = 13

5)  $P_{55} = 17$       $L = \frac{55}{100} \cdot 31 = 17.05$      Since L is not a whole number, round up to 18.  
Find the 18<sup>th</sup> number in the list = 17

6)  $P_{64} = 17$       $L = \frac{64}{100} \cdot 31 = 19.84$      Since L is not a whole number, round up to 20.  
Find the 20<sup>th</sup> number in the list = 17

7)  $P_{78} = 23$       $L = \frac{78}{100} \cdot 31 = 24.18$      Since L is not a whole number, round up to 25.  
Find the 25<sup>th</sup> number in the list = 23

- 8)  $Q_1 = P_{25} = 4$   $L = \frac{25}{100} \cdot 31 = 7.7$  Since L is not a whole number, round up to 8.  
Find the 8<sup>th</sup> number in the list = 4
- 9)  $Q_2 = P_{50} = 16$   $L = \frac{50}{100} \cdot 31 = 15.5$  Since L is not a whole number, round up to 16  
Find the 16<sup>th</sup> number in the list = 16
- 10)  $Q_3 = P_{75} = 21$   $L = \frac{75}{100} \cdot 31 = 23.2$  Since L is not a whole number, round up to 24.  
Find the 24<sup>th</sup> number in the list = 21

**Extra Credit: What city is : 47 55 N, Longitude: 97 6 W?**

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