Percentiles and Quartiles

Give a description of the three quartiles:

Q_1:

Q_2:

Q_3:

Use the table to find the indicated percentile or quartile.

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

-5	-5	13	12	10	24	16	8	7	10	11	8
-10	-16	-9	-10	-14	-15	-20	-19	-12	-10	-18	-15
-5	-5	6	1	-19	-26	-13					

1) P_{10}

2) P_{26}

3) P_{31}

4) P_{47}

5) P_{55}

6) P_{64}

7) P_{78}

8) Q_1

9) Q_2

10) Q_3

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.

Min Temperatures in F° for January 2008, Latitude: 44 52 N, Longitude: 93 13 W

-5	-5	13	12	10	24	16	8	7	10	11	8
-10	-16	-9	-10	-14	-15	-20	-19	-12	-10	-18	-15
-5	-5	6	1	-19	-26	-13					

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

1) P_{10} = -18 $L = \frac{10}{100} \cdot 31 = 3.1$ Since L is not a whole number, round up to 4. Find the 4th number in the list = -18

2) P_{26} = -13 $L = \frac{26}{100} \cdot 31 = 8.06$ Since L is not a whole number, round up to 9. Find the 9th number in the list = -13

3) P_{31} = -12 $L = \frac{31}{100} \cdot 31 = 9.61$ Since L is not a whole number, round up to 10. Find the 10th number in the list = -12

4) P_{47} = -9 $L = \frac{47}{100} \cdot 31 = 14.57$ Since L is not a whole number, round up to 15. Find the 15th number in the list = -9

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

6) P_{64} = 1 $L = \frac{64}{100} \cdot 31 = 19.84$ Since L is not a whole number, round up to 20. Find the 20th number in the list = 1

7) P_{78} = 10 $L = \frac{78}{100} \cdot 31 = 24.18$ Since L is not a whole number, round up to 25. Find the 25st number in the list = 10

8) $Q_1 = P_{25} = -14$ $L = \frac{25}{100} \cdot 31 = 7.7$ Since L is not a whole number, round up to 8.
Find the 8th number in the list = -14

9) $Q_2 = P_{50} = -5$ $L = \frac{50}{100} \cdot 31 = 15.5$ Since L is not a whole number, round up to 16
Find the 16th number in the list = -5

10) $Q_3 = P_{75} = 8$ $L = \frac{75}{100} \cdot 31 = 23.2$ Since L is not a whole number, round up to 24.
Find the 24th number in the list = 8

Extra Credit: What city is : 47 55 N, Longitude: 97 6 W?
Grand Forks University – National Weather Service