Finding the Median for Grouped Data

Serious Crimes per Precinct, Metro, Texas,
Week of March 7, 2004

Number of Crimes	Number of Precincts	Cummulative Frequency
1-5	6	6
6-10	9	15
11-15	14	29
16-20	5	34
21-25	1	35
N	35	

1. Fill in the Cumulative Frequency from lowest value class to highest

This isn't necessary but can be a help

2. Which is the Median Precinct?

(N+1)/2 = **18th Precinct**

3. The Median Precinct belongs to which Class?

Look at the Cumulative Frequency
Precincts 1-6 would be in the first class
Precincts 7-15 would be in the second class
Precincts 16-29 would be in the third class
So, Precinct 18 would be in the third class (11-15 crimes)

4. What is the cumulative frequency of all the classes below that class?

Adding up the frequencies of the 1-5 and 6-10 classes
= 6+9 = **15**

5. So, how far do we need to go into the median's class to get to the median?

The 18th Precinct is **3** above the cummulative frequency below it (15)
The median class has a frequency of **14**
Therefore, you need to go 3/14ths into that class

6. How wide is the class?

Each class is **5** wide

7. If you multiply the class width by how far you need to go into it, you get?

So, how far is 3/14s into that class? To figure that out,
mulitply 3/14ths by the class width (5)
which = **1.07**

8. If you add that to the upper limit of the class below, you get the median

The upper limit of the class below the median class is 10
Median = 10 + 1.07 = **11.07**