Number of Speeding Tickets Issued per Police Officer, Speederville, FL, May 2003

Tickets Issued	Number of Police Officers	Cumulative Frequency
0-25	5	*5*
26-50	25	*30*
51-75	33	*63*
76-100	36	*99*
101-125	2	*101*
	101	

Finding the Median for Grouped Data

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 Police Officer

(N+1)/2

a	49	
b	50	
c	51	*
d	52	
e	36	

3. The Median Police Officer belongs to which Class?

Look at the Cumulative Frequency
Officers 1-5 would be in the first class
Officers 6-30 would be in the second class
Officers 31-63 would be in the third class
So, Office 51 would be in the third class (51-75)

a	0-25	
b	26-50	
c	51-75	*
d	76-100	
e	101-125	

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

Adding up the frequencies of the 0-25 and 26-50 classes

a	5	
b	30	*
c	63	
d	99	
e	101	

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

The 51st police officer is 21 above the class frequencies below it (30)
The median class has a frequency of 33
Therefore, you need to go 21/33rds into that class

a	19/33	
b	20/33	
c	21/33	*
d	22/33	
e	21/25	

6. How wide is the class?

Each class is 25 wide

a	5	
b	10	
c	15	
d	20	
e	25	*

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

So, how far is 21/33rds into that class? To figure that out, mulitply 21/33 by the class width (25)

a	14.5	
b	2	
c	15.91	*
d	25	
e	5.52	

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

The upper limit of the class below the median class is 50
50 + 15.91 = 65.91

a	15.91	
b	40.91	
c	65.91	*
d	90.91	
e	115.91	