Quick Questions 5 Measuring Central Tendency of Grouped Data

I. Place the number of the appropriate formula next to the item it describes.
   A. Grouped sample mean __2__
   B. Location of the grouped median __4__
   C. Grouped median __3__
   D. Class midpoint __1__

II. The x values for this chart are 12, 17, and 22 respectively.
   A. The first class has real class limits of __9.5__ and __14.5__.
   B. The first class has stated class limits of __10__ and __14__.
   C. The class width is __5__.
   D. The midpoint of the first class is __12__.
   E. The range using real class limits is from __9.5__ to __24.5__.

III. Calculate the following statistics using this frequency distribution of exam grades.

A. Mean

$$\bar{X} = \frac{\sum fx}{n} = \frac{1{,}401}{18} = 77.8$$

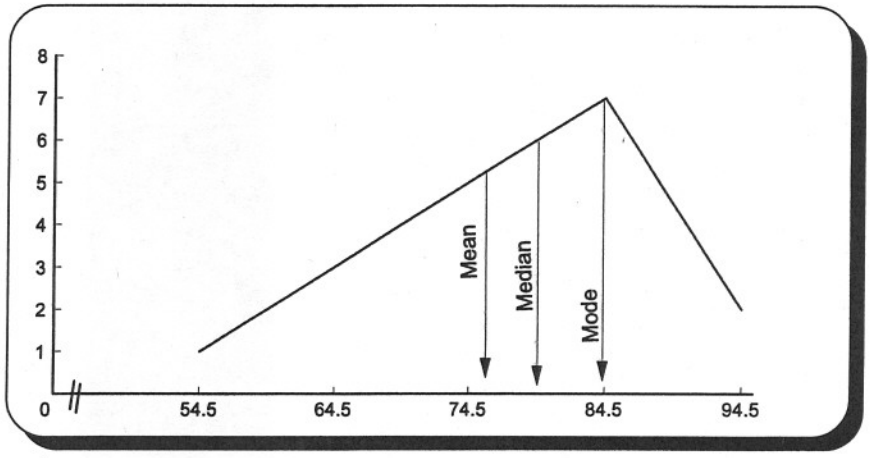
B. Median

$$L + \frac{\frac{n}{2} - CF_b}{f}(i)$$
$$= 69.5 + \frac{\frac{18}{2} - 4}{5}(10)$$
$$= 69.5 + 10 = 79.5$$

C. Mode

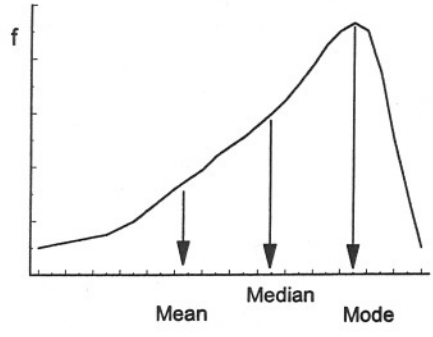
The midpoint of the class with the highest frequency is 84.5.

IV. Draw a frequency polygon for the question III data and locate the mean, median, and mode.

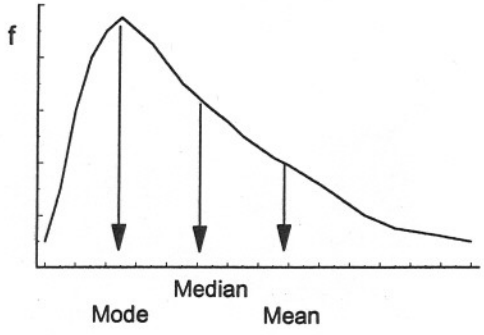


V. Show the approximate location of the mean, median, and mode on the x-axis of these frequency distributions.

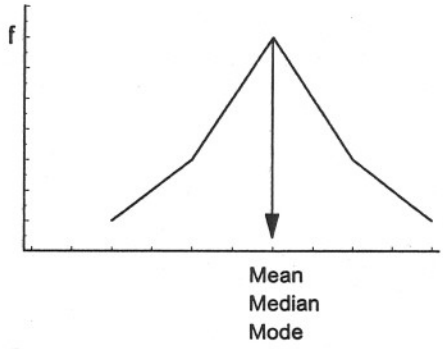
Curve #1



Curve #2



Curve #3



VI. Answer these questions using Curves #1 to #4.
   A. Curve #1 is skewed to the __left__.
   B. Curve #3 is not skewed and is said to be __symmetrical or normal__.
   C. Curve #4 is __bimodal__.
   D. Mean
   E.

$$\frac{3(\bar{x} - Md.)}{s} = \frac{3(77.8 - 79.5)}{14.2} = \frac{3(-1.7)}{14.2} = \frac{-5.1}{14.2} = -.4$$

Curve #4