Problem Set

Q:- During a one day blood drive, 35 people donated blood at a mobile donation center. Here are the blood types of the 35 people. Using this table that shows the blood type of each person that donated blood, fill in this table.

Blood Types

O	O	A	O	O
A	A	B	A	O
O	O	O	AB	O
A	O	A	O	A
B	A	O	A	B
AB	O	A	O	B
A	A	O	A	O

Blood Type	f	p	%
O			
A			
B			
AB			
Σ			

The Σ symbol means the total sum. It is the Greek letter capital sigma. *F* stands for frequency (count), *p* stands for proportion.

What is the most common blood type?

- O
- A
- B
- AB

What is the most rare blood type?

- O
- A
- B
- AB

What proportion of donors were Type A?

If these donors accurately represent the blood types in the population of residents in their city, then what percentage of the population should have Type O blood?

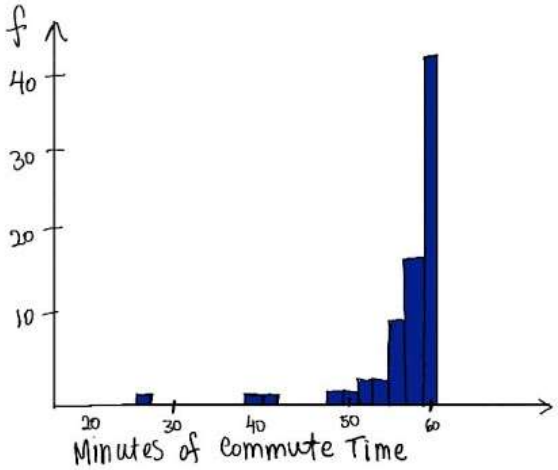
Blood types O, A and B can all donate to at least one other blood type, only Type AB cannot. Given this information, what would you predict as the proportion of the population that cannot donate to other blood types?

Let's say you have data ranging from 15 to 105.

What should your bin size be if you want to have 10 bins?

- 1
- 10
- 9
- 90

The scores visualized by this histogram are the average commute times in minutes for employees at a certain company to get to work.



What is the most frequent commute time?

- 30 min
- 40 min
- 50 min
- 60 min

Approximately how many employees commute at least 59 min to get to work?

What is the bin width?

_____ minutes

Which of the following is true about this distribution? (select all that apply)

- ☐ All employees commute more than 60 minutes
- ☐ All employees commute more than 20 minutes
- ☐ Most employees take public transportation to work
- ☐ Most employees commute 50-60 minutes to get to work

In general, when we visualize data with histograms, as we make the bin size bigger, the frequency gets:

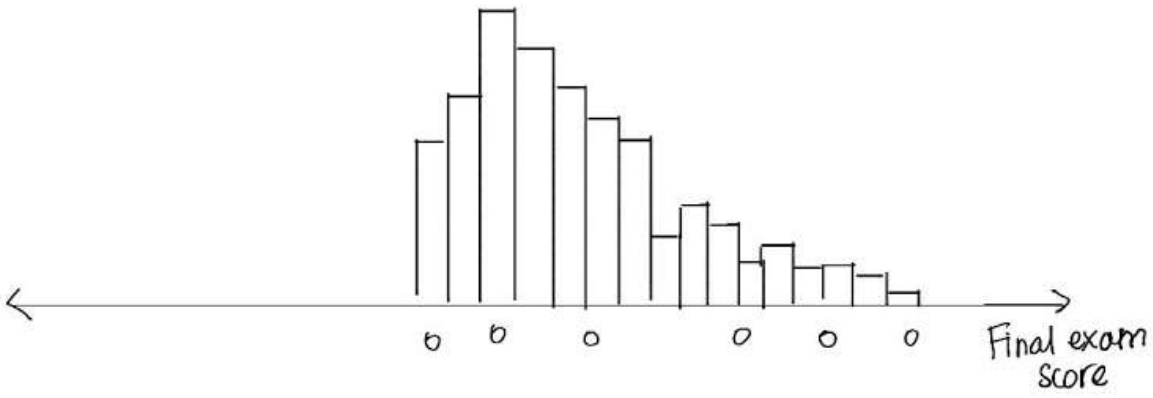
- o larger
- o smaller

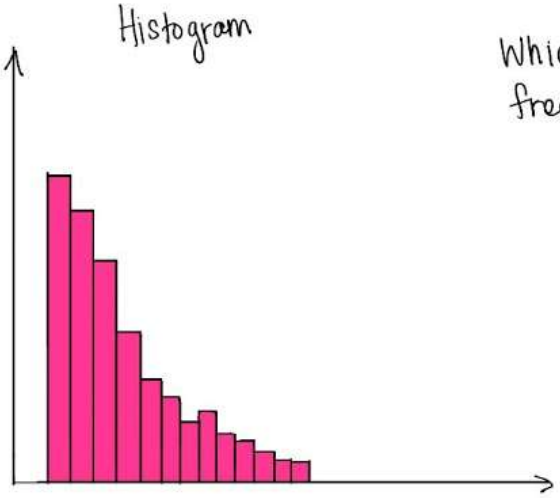
In an introductory statistics course, the same number of students scored below 75% as above 75% on the final exam.

To understand student performance, we can look at the distribution of

- students
- final exam scores

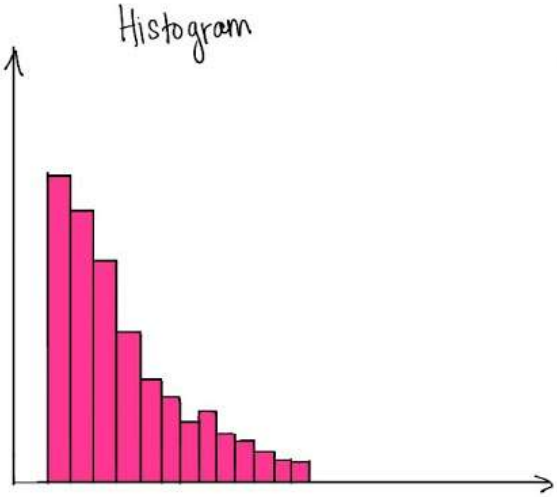
If the distribution has the shape drawn below, whereabouts is 75% on the x-axis?





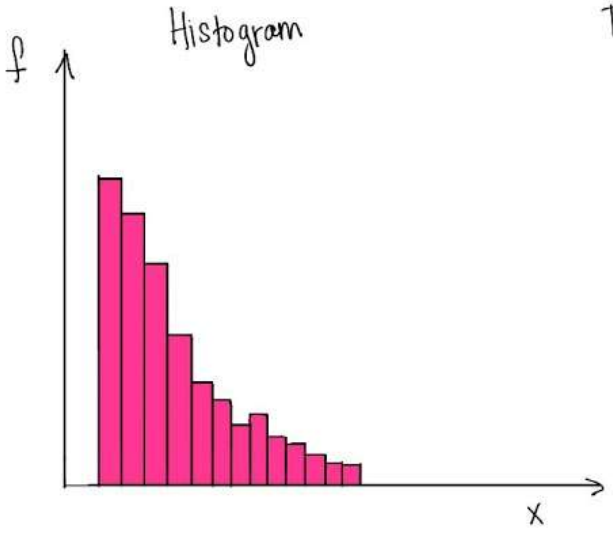
Which axis represents the frequency?

- x-axis
- Y-axis



What could the x-axis represent? Check all that apply.

- ☐ frequency
- ☐ countries
- ☐ year
- ☐ colors
- ☐ price in USD
- ☐ length in meters



This distribution is:

- Positively skewed
- Negatively skewed
- Normal

Describe what a negatively skewed distribution looks like. Can you think of any examples of negatively skewed data?

_____

_____

_____

_____

Describe what a normal distribution looks like. Can you think of any examples of normally distributed data?

	Good for visualizing the shape of a distribution	Good for calculating the total number in the sample/population	Can always be created if you have the other (table/histogram)
Frequency Table			
Histogram			

Check all that are true about frequency tables and histograms.