Practice Run

1. In football, rushing yards is the distance a player moves forward with the football in a running play (as opposed to a passing or kicking play). The table below lists the cumulative rushing yards for CFL players in 2012.

2012 CFL Rushing Yards per Player

BC	Edm	Cal	Sask	Win	Ham	Tor	Mon
1 112	887	1 457	1 277	1 039	737	638	631
477	238	191	342	241	656	447	318
238	168	146	165	134	343	220	317
122	148	120	115	108	12	122	174
86	112	67	56	84	10	84	155
79	76	32	48	60	9	34	55
32	36	31	4	43	9	25	12
23	23	17	0	26		17	2
22	12	15	0	19		15	1
13	6	9		18		8	–5
6	1	3		7		3	
	–8			5		–1	
				3			
				3			

Source: *www.cfl.ca*

a. Decide on an appropriate class size for the data (in the billionaire example, classes were each 10 billion (the width of each interval was 10 billion)).

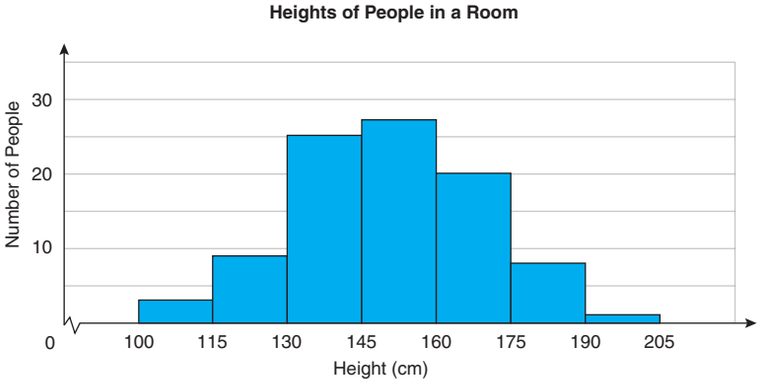
b. Use your classes to make a frequency distribution table.

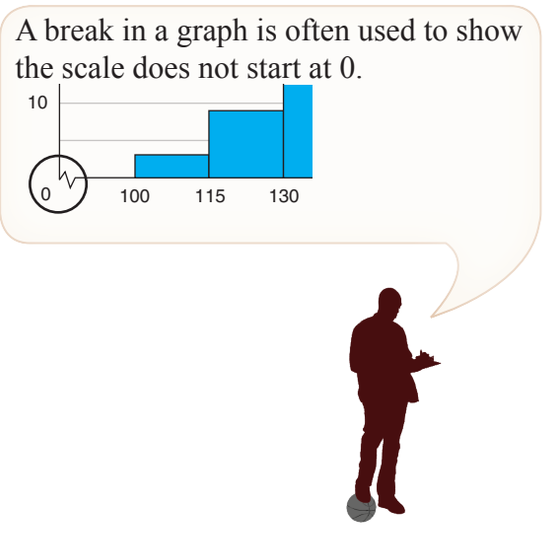
c. Draw a histogram to display the information in your frequency distribution. Be sure to include an appropriate title and labels for the axes.

d. Describe how the data is distributed. What does this tell you about how running players are used on a football team?

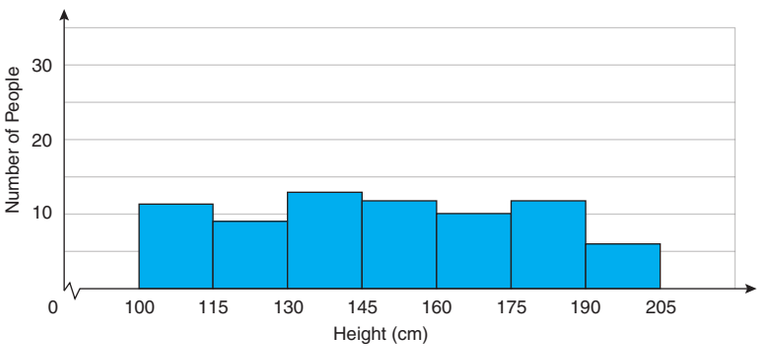
2. Each of the following histograms gives the heights of people in a room. Describe the distribution for each histogram and what you would see looking into the room.

a.

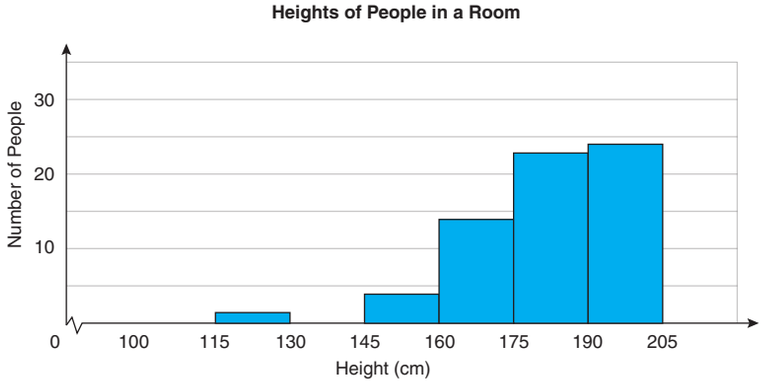




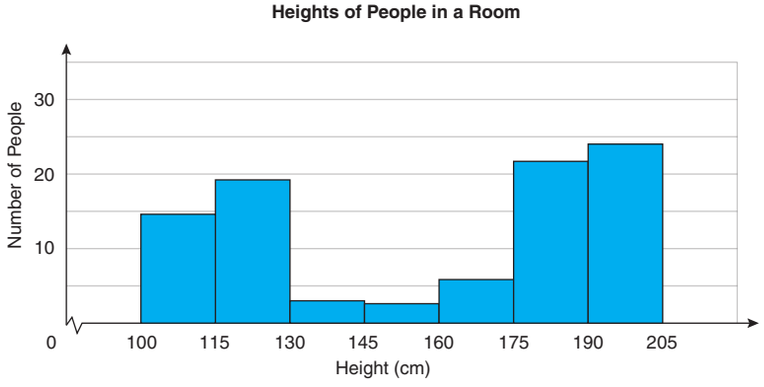
b.



c.


Heights of People in a Room
Number of People
30
20
10
0
100
115
130
145
160
175
190
205
Height (cm)

d.


Heights of People in a Room
Number of People
30
20
10
0
100
115
130
145
160
175
190
205
Height (cm)

Compare your answers.

1. In football, rushing yards is the distance a player moves forward with the football in a running play (as opposed to a passing or kicking play). The table below lists the cumulative rushing yards for CFL players in 2012.

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2012 CFL Rushing Yards per Player							
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22	12	15	0	19		15	1
13	6	9		18		8	–5
6	1	3		7		3	
	–8			5		–1	
				3			
				3			

Source: *www.cfl.ca*

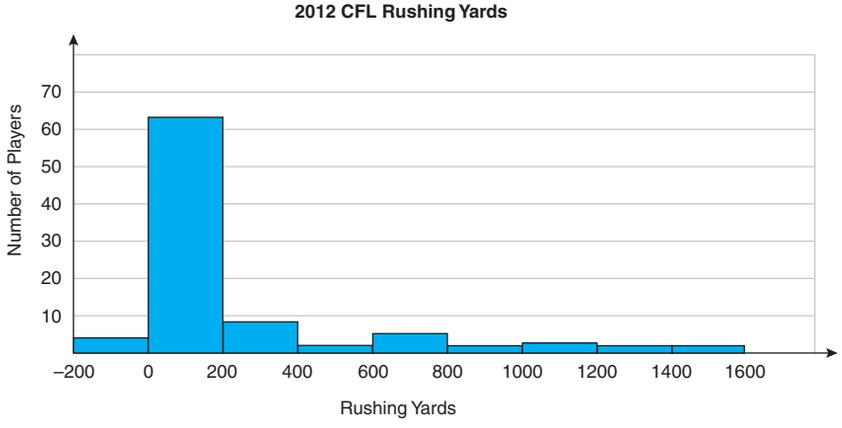
a. Decide on an appropriate class size for the data (in the billionaire example, classes were each 10 billion (the width of each interval was 10 billion)).

Class sizes may vary but 100 to 300 is reasonable. The following responses use a class size of 200.

b. Use your classes to make a frequency distribution table.

Rushing Yards	Tally	Frequency
– 200 – 0	III	3
0 – 200	𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 IIII	64
200 – 400	𝍸 III	8
400 – 600	II	2
600 – 800	IIII	4
800 – 1000	I	1
1000 – 1200	II	2
1200 – 1400	I	1
1400 – 1600	I	1

c. Draw a histogram to display the information in your frequency distribution. Be sure to include an appropriate title and labels for the axes.

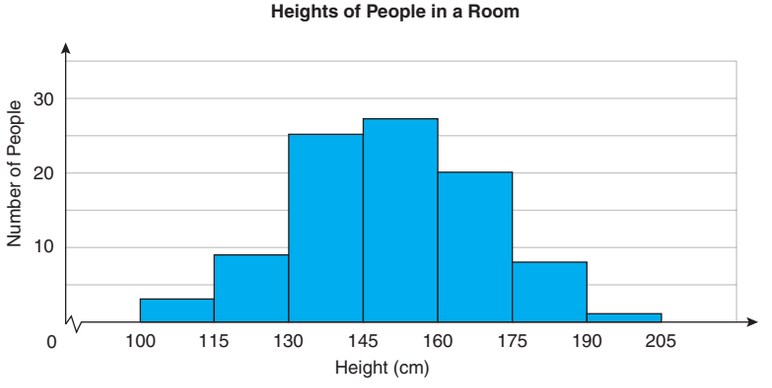


d. Describe how the data is distributed. What does this tell you about how running players are used on a football team?

Most of the data occurs between 0 and 200. This means that while there were a few star players with a lot of rushing yards, most players either didn't run the ball very often or didn't get very far when they did run.

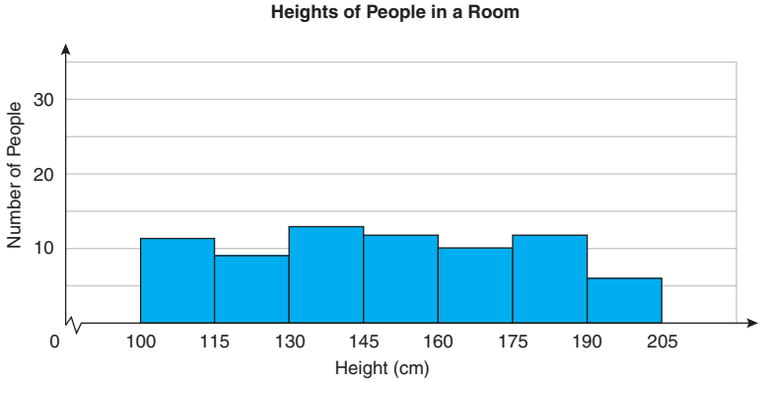
2. Each of the following histograms gives the heights of people in a room. Describe the distribution for each histogram and what you would see looking into the room.

a.



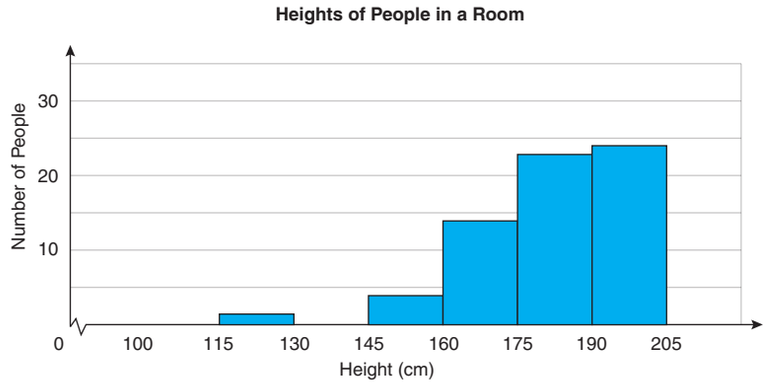
This distribution shows a variety of heights with most people somewhere in the middle. Looking into this room you would see a few short people, a few tall people, and many people around the same height. The shape of this graph is sometimes referred to as **normal distribution**.

b.



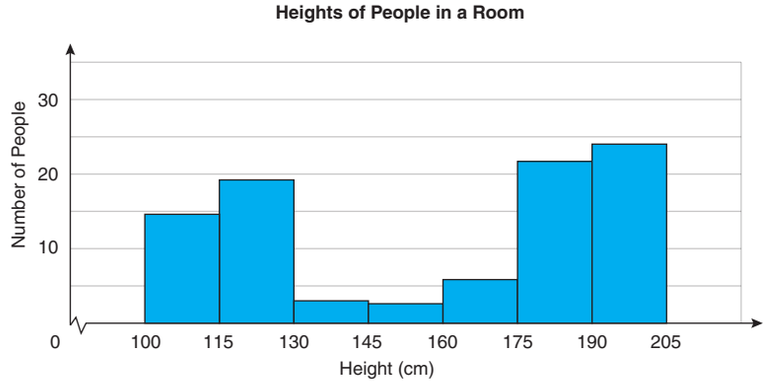
There are about the same number of people in each class. You would see people of all heights in this room in about equal numbers. The shape of this graph is sometimes referred to as **uniform distribution**.

c.

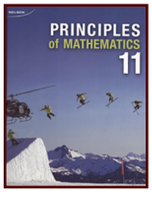


This distribution shows a lot of tall people. Looking into this room you would see almost entirely tall people. The shape of this graph is sometimes referred to as **left-skewed**.

d.



This distribution shows two distinct groups. Looking into this room you would see a group of people who are fairly short and another group of people who are fairly tall. The shape of this graph is sometimes referred to as **bimodal distribution**.



For further information about distributions and histograms see pp. 241 – 248 of *Principles of Mathematics 11*.