

Name _____

Date _____

Describing a Distribution Displayed in a Histogram

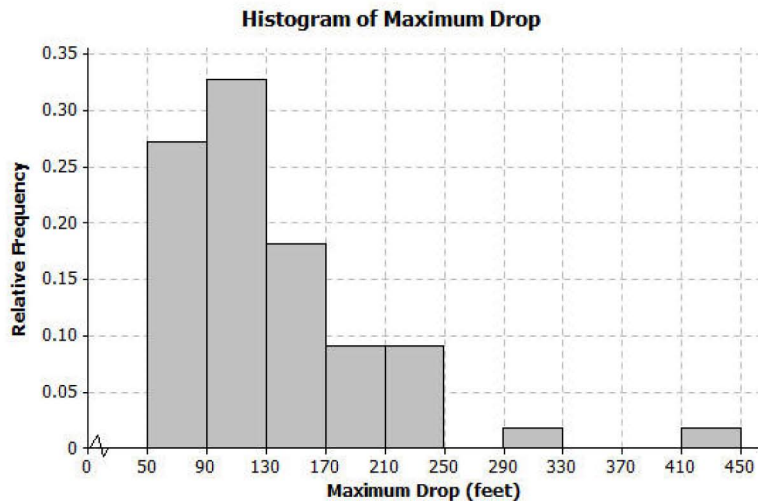
Calculators are allowed for completing your problems.

Hector's mom had a rummage sale, and after she sold an item, she tallied for how much money she sold the item. Following is the frequency table Hector's mom created:

Amount of Money the Item sold for	Tally	Frequency	Relative Frequency
\$0–< 5		2	
\$5–< \$10		1	
\$10–< \$15		4	
\$15–< \$20	 	10	
\$20–< \$25		5	
\$25–< \$30		3	
\$30–< \$35		2	

- What was the total number of items sold at the rummage sale?
- Complete the relative frequency column. Round to the nearest thousandth.
- What percent of the items Hector's mom sold was sold for \$15 or more, but less than \$20?

1. Below is a relative frequency histogram of the maximum drop (in feet) of a selected group of roller coasters.



- Describe the shape of the relative frequency histogram.
- What does the shape tell you about the maximum drop (in feet) of roller coasters?
- Jerome said that more than half of the data is in the interval from 50 – 130 feet. Do you agree with Jerome? Why or why not?

2. The frequency table below shows the length of selected movies shown in a local theater over the past 6 months.

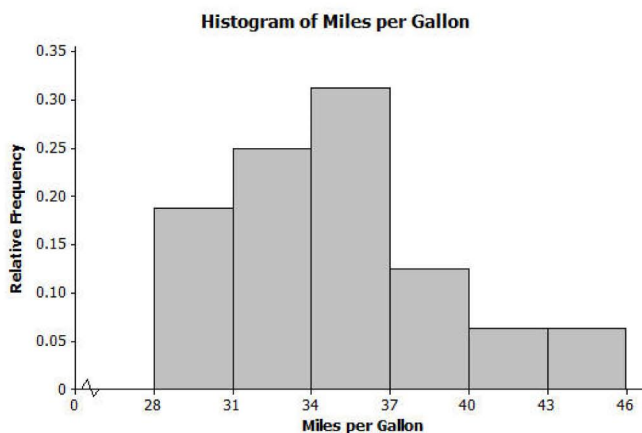
Length of Movie (min)	Tally	Frequency	Relative Frequency
80–< 90		1	0.036
90–< 100		4	0.143
100–< 110	+++	7	0.25
110–< 120	+++	5	0.179
120–< 130	+++	7	0.25
130–< 140		3	0.107
140–< 150		1	0.036

- Complete the relative frequency column. Round to the nearest thousandth.
- What percent of the movie lengths is greater than or equal to 130 minutes?
- Draw a relative frequency histogram.
- Describe the shape of the relative frequency histogram.
- What does the shape tell you about the length of movie times?

3. The table below shows the highway mile per gallon of different compact cars.

Mileage	Tally	Frequency	Relative Frequency
128–< 31		3	0.188
31–< 34		4	0.250
34–< 37	+++	5	0.313
37–< 40		2	0.125
40–< 43		1	0.063
43–< 46		0	0
46–< 49		0	0
49–< 52		1	0.063

- What is the total number of compact cars?
- Complete the relative frequency column. Round to the nearest thousandth.
- What percent of the cars gets between 31 and up to but not including 37 miles per gallon on the highway?
- Juan drew the relative frequency histogram of the miles per gallon of the compact cars, shown on the right. Do you agree with the way Juan drew the histogram? Explain your answer.



Hector's mom had a rummage sale, and after she sold an item, she tallied for how much money she sold the item. Following is the frequency table Hector's mom created:

Amount of Money the Item sold for	Tally	Frequency	Relative Frequency
\$0 < \$5		2	0.074
\$5 < \$10		1	0.037
\$10 < \$15		4	0.148
\$15 < \$20		10	0.370
\$20 < \$25		5	0.185
\$25 < \$30		3	0.111
\$30 < \$35		2	0.074

a. What was the total number of items sold at the rummage sale?

27 items

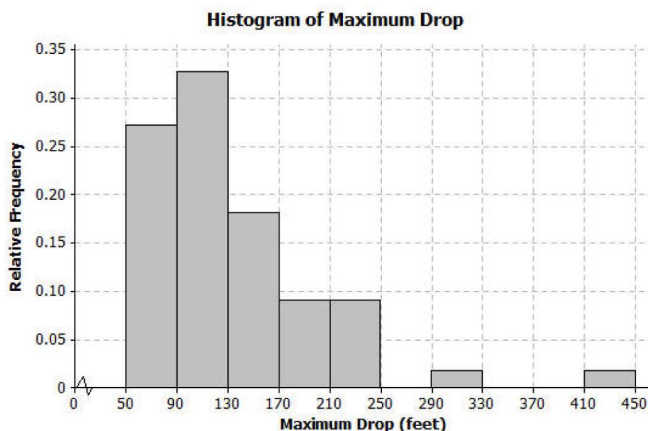
b. Complete the relative frequency column. Round to the nearest thousandth.

See table above.

c. What percent of the items Hector's mom sold was sold for \$15 or more, but less than \$20?

0.37 or 37%

1. Below is a relative frequency histogram of the maximum drop (in feet) of a selected group of roller coasters.



a. Describe the shape of the relative frequency histogram.

Skewed to the right.

- b. What does the shape tell you about the maximum drop (in feet) of roller coasters?

Most of the roller coasters have a maximum drop that is between 50 and 170 feet.

- c. Jerome said that more than half of the data is in the interval from 50 – 130 feet. Do you agree with Jerome? Why or why not?

Yes, that span has 60% of the data.

2. The frequency table below shows the length of selected movies shown in a local theater over the past 6 months.

Length of Movie (min)	Tally	Frequency	Relative Frequency
80–< 90		1	0.036
90–< 100		4	0.143
100–< 110	+++	7	0.25
110–< 120	+++	5	0.179
120–< 130	+++	7	0.25
130–< 140		3	0.107
140–< 150		1	0.036

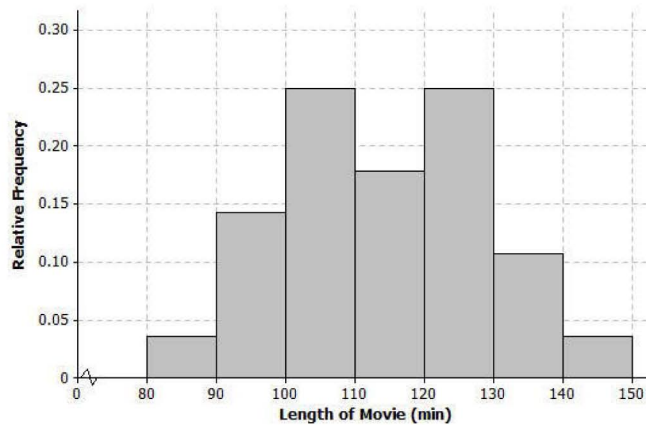
- a. Complete the relative frequency column. Round to the nearest thousandth.

See table above.

- b. What percent of the movie lengths is greater than or equal to 130 minutes?

$0.143 = 14.3\%$

- c. Draw a relative frequency histogram.



- d. Describe the shape of the relative frequency histogram.

Mound shaped/approximately symmetric.

- e. What does the shape tell you about the length of movie times?

The length of most movies is between 100 and 130 minutes.

3. The table below shows the highway mile per gallon of different compact cars.

Mileage	Tally	Frequency	Relative Frequency
128-< 31		3	0.188
31-< 34		4	0.250
34-< 37	+	5	0.313
37-< 40		2	0.125
40-< 43		1	0.063
43-< 46		0	0
46-< 49		0	0
49-< 52		1	0.063

a. What is the total number of compact cars?

16

b. Complete the relative frequency column. Round to the nearest thousandth.

See table above.

c. What percent of the cars gets between 31 and up to but not including 37 miles per gallon on the highway?

$0.563 = 56.3\%$

d. Juan drew the relative frequency histogram of the miles per gallon of the compact cars, shown on the right. Do you agree with the way Juan drew the histogram? Explain your answer.

No, Juan skipped the intervals 43-< 46 and 46-< 49.

