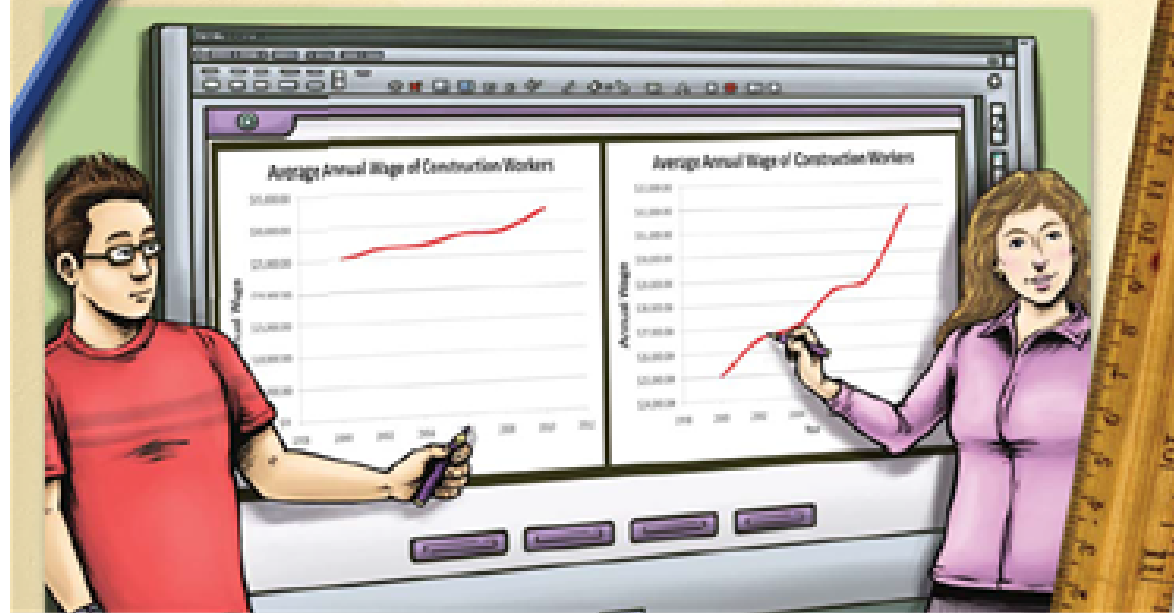


4

Interpreting Graphs



Very important to be able to extract information from graphs, as well as being able to create graphs!

$$\frac{7}{8} \rightarrow \%$$

$$\textcircled{1} 7 \div 8 = 0.875$$

$$\textcircled{2} 0.875 \times 100$$

$$= 87.5$$

$$= 88\%$$

① Change fraction into a decimal
↳ Top \div Bottom

② Multiply decimal by 100.

1. Show each fraction as a percent. Round your answer to the nearest whole percent.

a) $\frac{7}{8}$

88%

b) $\frac{9}{10}$

0.9×100
 $= 90\%$

c) $\frac{24}{25}$

0.96×100
 $= 96\%$

d) $\frac{7}{16}$

0.46×100
 46%

e) $\frac{5}{6}$

0.83×100
 $= 83\%$

f) $\frac{17}{20}$

0.85×100
 85%

Calculate:

a) 90% of 110

b) 15% of 255

c) 55% of 427

d) 2% of 68

e) 68% of 96

f) 42% of 75

① Change % to a decimal

② Multiply decimal by the amount

a) $90\% \div 100 = 0.90$

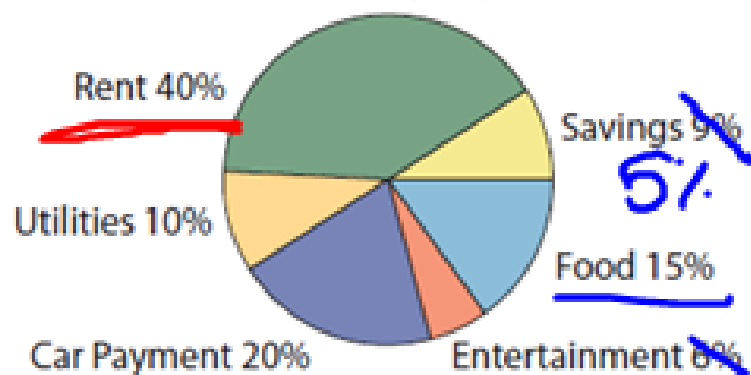
$$0.90 \times 110 = 99$$

b) $15\% \div 100 = 0.15$

$$0.15 \times 255 = 38.25$$

4. James organizes his monthly income of \$2500 in a circle graph.

James' Monthly Expenses



b) 40% of 2500

$$0.40 \times 2500 = \$1000$$

- a) What percent of his monthly income does James spend on rent?

40%

- b) How much does he spend on rent?

\$1000

- c) How much does he spend on food?

c) 15% of 2500

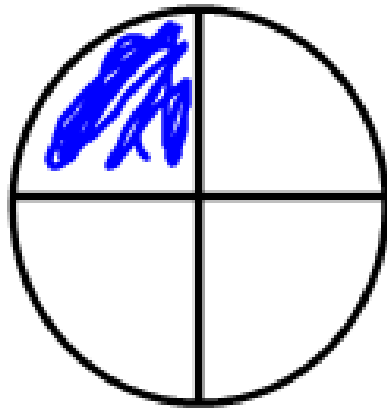
$$0.15 \times 2500 = \$375$$

- d) James decides to save 5% of his monthly budget and increase his entertainment budget by 4%. What is the new amount James spends on entertainment?

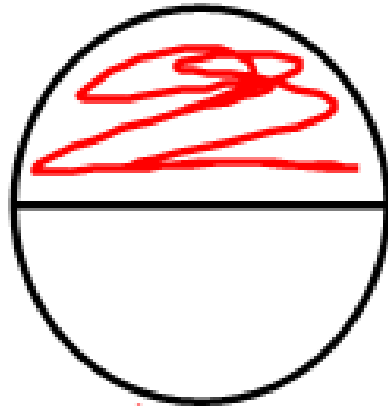
10% of 2500

$$0.10 \times 2500 \Rightarrow 250$$

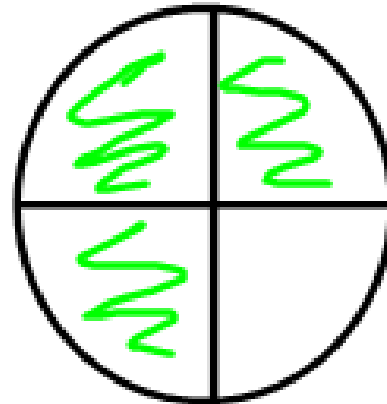
To make a circle graph, we need some referents:



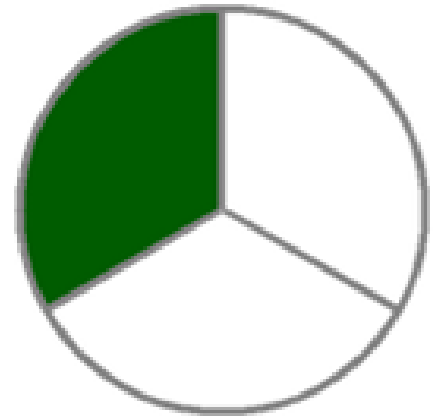
$\frac{1}{4}$
0.25
25%



$\frac{1}{2}$
0.50
50%



$\frac{3}{4}$
0.75
75%



$\frac{1}{3}$
0.33
33.3%

We're going to refer to these when we make circle graphs.

i.e.

22% is a bit less than 25%

10% is a bit less than half of 25%

To make a circle graph:

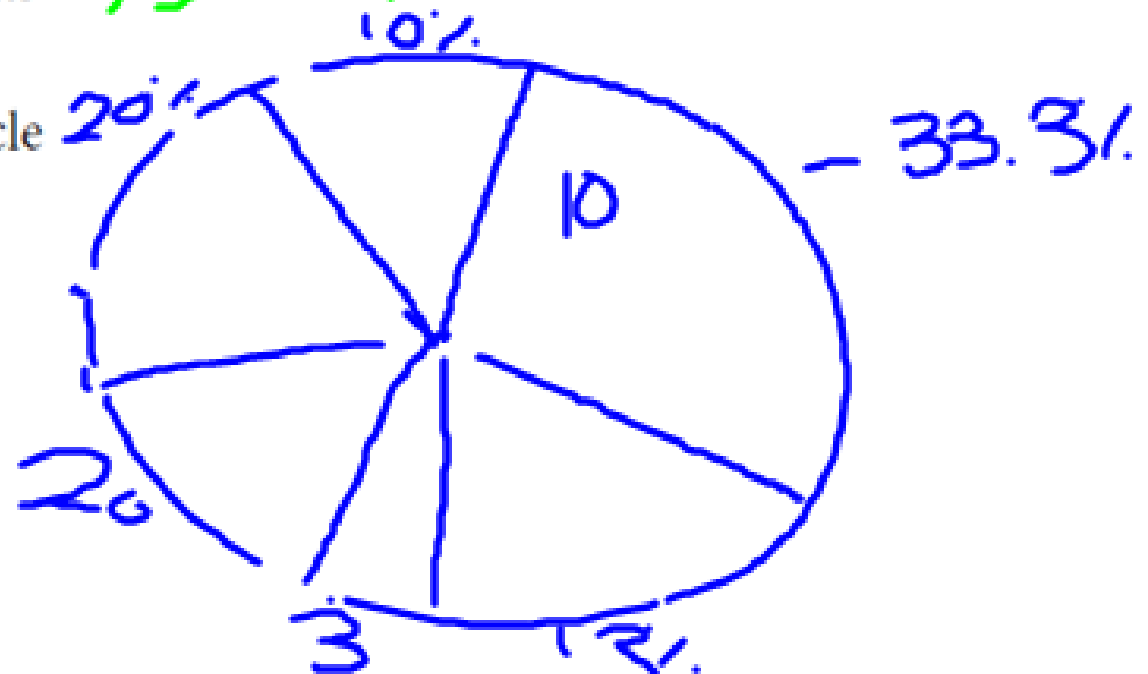
- 1) Figure out what percent of the total each category is.
- 2) Use referents to sketch circle graph
- 3) Make sure larger percents line up with larger pieces of graph.

5. A survey asked students about the activities they do in their free time. Thirty students responded.

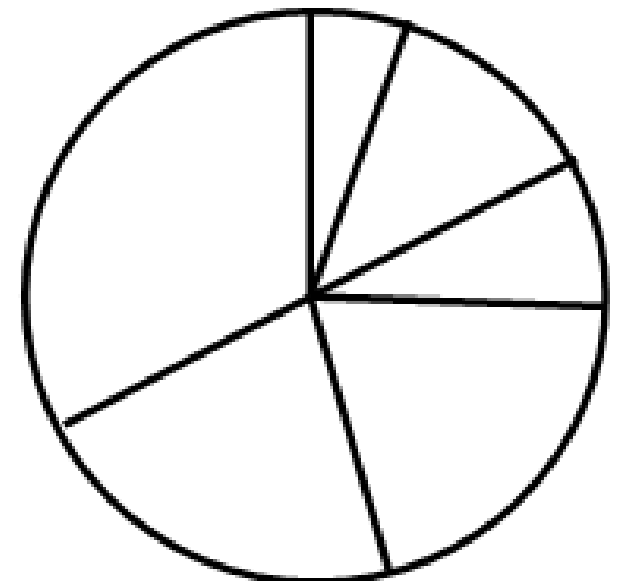
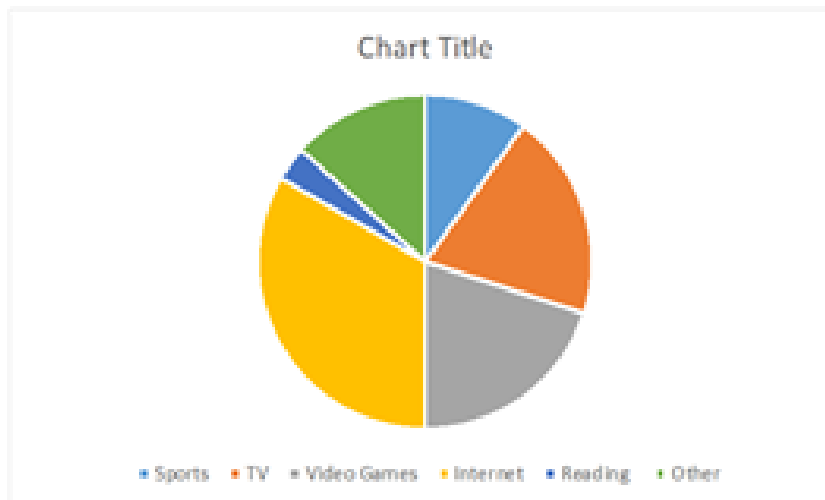
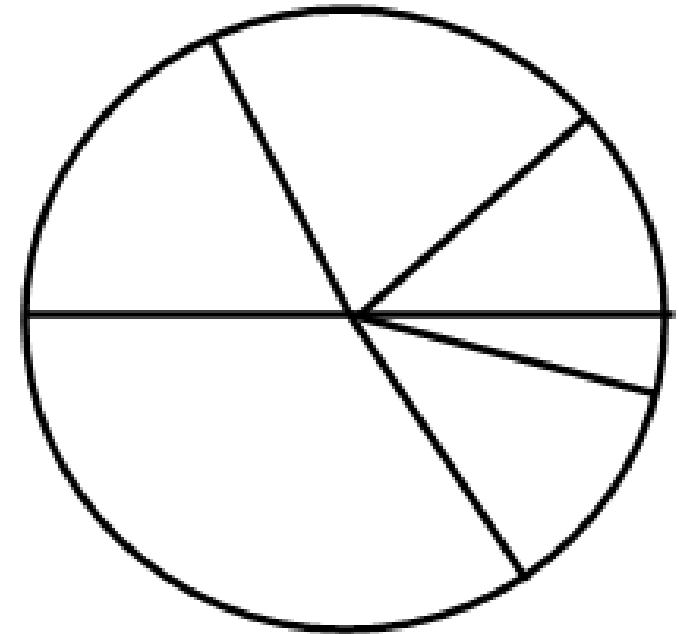
Activity	# of Students
Playing sports	3
Watching TV	6
Playing video games	6
Surfing the Internet	10
Reading	1
Other	4

$\frac{3}{30}$ } 10%
 $\frac{6}{30}$ } 20%
 $\frac{6}{30}$ } 20%
 $\frac{10}{30}$ } 33.3%
 $\frac{1}{30}$ } 3.3%
 $\frac{4}{30}$ } 13.33%

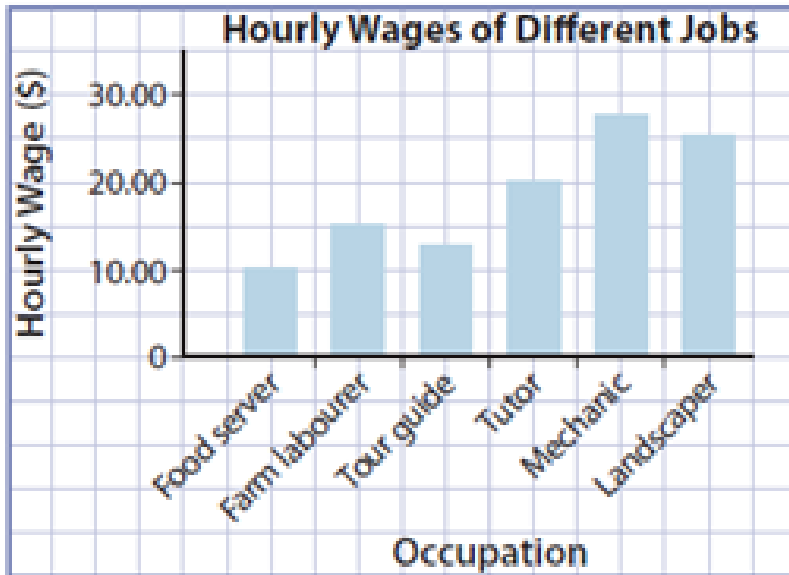
- a) What percent of the 30 students chose each activity?
- b) Represent the data using a circle graph.



Looking at the different graphs,
we see that they are all
approximately the same!



6. The bar graph below shows the hourly wages of five jobs.



- ① Food Server
- ② Tour Guide
- ③ Farm Labour
- ④ Tutor
- ⑤ Landscap
- ⑥ Mechanic

- a) List the occupations in ascending order by hourly pay.
- b) The hourly wage of a food server is half the wage of which occupation?
- c) The hourly wage of a landscaper is twice the wage of which occupation?

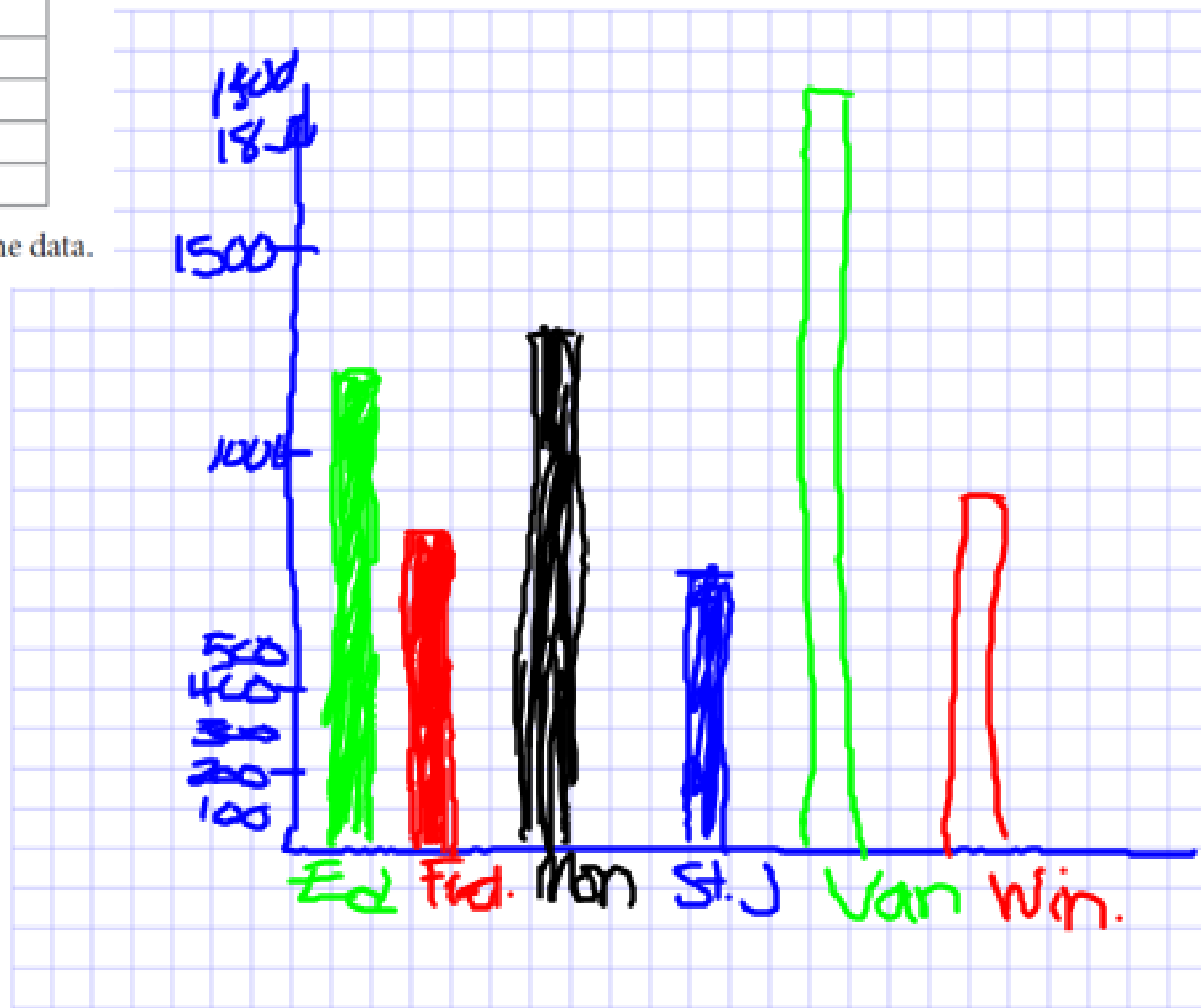
Tutor

Tour Guide

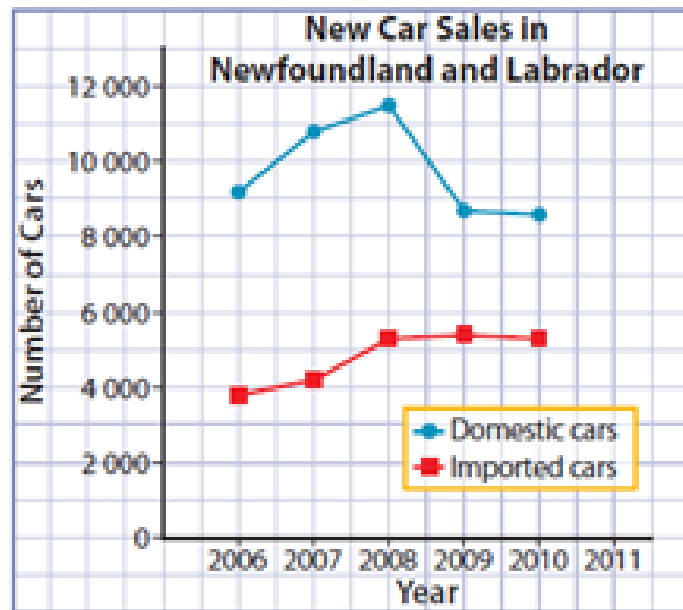
7. The data below show the average rent for a two-bedroom apartment in various cities.

City	Monthly Rent (\$)
Edmonton, AB	1200
Fredericton, NB	800
Montreal, QC	1300
St. John's, NL	700
Vancouver, BC	1800
Winnipeg, MB	900

Draw a bar graph to represent the data.



8. The double line graph shows new car sales in Newfoundland and Labrador from 2006 to 2010.



- a) In what year were the most domestic cars sold? **2008**
- b) In 2010, what type of car sold the most? **Domestic**
- c) Overall, how do the sales of domestic cars compare to the sales of imported cars?

9. The data below show the gross sales of Java John's Coffee Shop for 2007–2012.

Year	Gross Sales (\$)
2007	38 000
2008	29 500
2009	40 000
2010	35 000
2011	22 500
2012	46 000

Draw a line graph to represent the data in the table.



So far we have used 3 kinds of graphs. Let's look at when we should use them!

Circle Graphs - Used to compare parts of a whole.

Example: Splitting budget into different categories.

Bar Graphs - Compare things in different groups. Also shows changes over time.

Example: Compare the number of absences in different classes.

Line Graphs - Used to track changes over time.

Example: Compare the temperature throughout the year.