Warm Up Grade 8

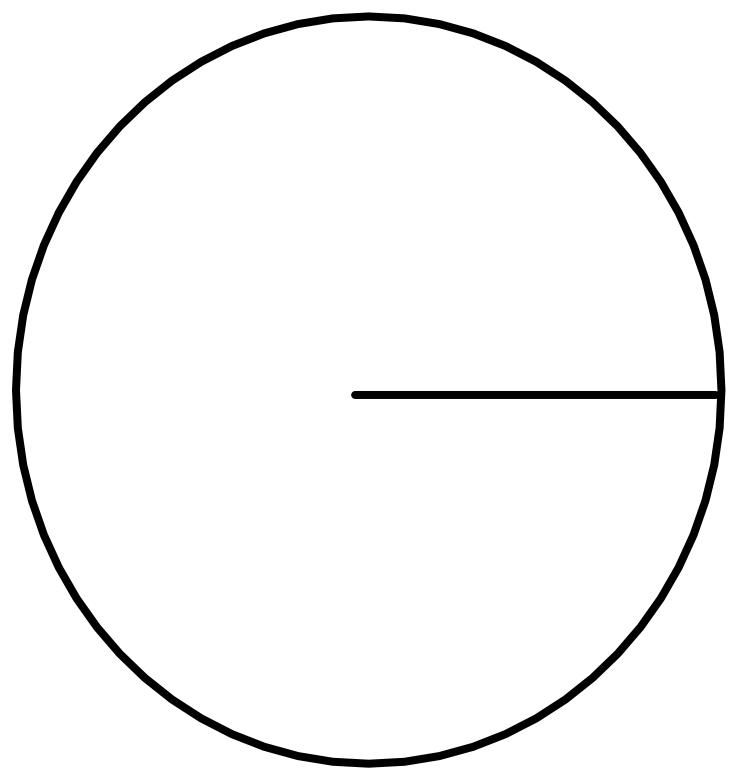
Date: _____

Test Tomorrow

Or today in SCIENCE

A group of students were asked what hockey team they preferred. The data are shown below.

Hockey Team	Number of students
Toronto Maple Leafs	12
Winnipeg Jets	3
Calgary Flames	8
Edmonton Oilers	5
Ottawa Senators	7
Vancouver Canucks	5
Montreal Canadians	10



Total = 50

Sector Angle

Toronto

$\frac{12}{50} = \frac{24}{100} = 24\%$

$0.24 \times 360^\circ = 86^\circ$

Winnipeg

Calgary

Edmonton

Ottawa

Vancouver

Montreal

Warm Up Grade 8

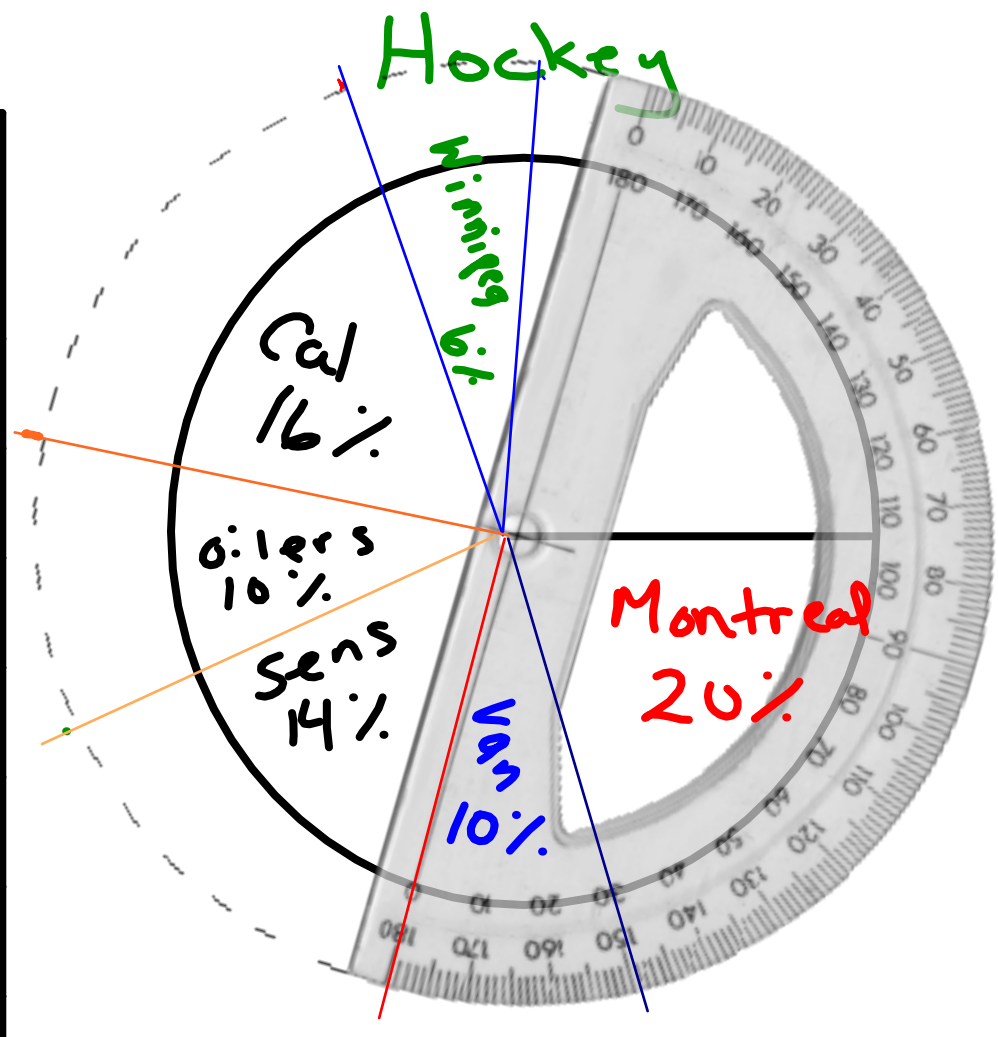
Date: _____

Test Tomorrow

Or today in SCIENCE

A group of students were asked what hockey team they preferred. The data are shown below.

Hockey Team	Number of students
Toronto Maple Leafs	12
Winnipeg	3
Calgary Flames	8
Edmonton Oilers	5
Ottawa Senators	7
Vancouver Canucks	5
Montreal Canadians	10



Total + 50

Toronto

$\frac{12}{50} = \frac{24}{100} = 24\%$

Sector Angle

$0.24 \times 360^\circ = 86^\circ$

Winnipeg

$\frac{3}{50} = \frac{6}{100} = 6\%$

Sector

$0.06 \times 360^\circ = 21.6^\circ$

$\approx 22^\circ$

Calgary

$\frac{8}{50} = \frac{16}{100} = 0.16$

$= 16\%$

Sector

$0.16 \times 360^\circ = 57.6^\circ$

$\approx 58^\circ$

Edmonton

$\frac{5}{50} = \frac{10}{100} = 0.10 = 10\%$ (x 100)

Sector

$0.10 \times 360^\circ$

$= 36^\circ$

Ottawa

$\frac{7}{50} = \frac{14}{100} = 14\%$

Sector

$0.14 \times 360^\circ$

$= 50.4^\circ$

$\approx 50^\circ$

Vancouver

$\frac{5}{50} = \frac{10}{100} = 0.10 = 10\%$

Sector

$0.10 \times 360^\circ = 36^\circ$

Montreal

$\frac{10}{50} = \frac{20}{100} = 20\%$

Sector

$0.20 \times 360^\circ = 72^\circ$

Class/Homework

Page 170

#15, ~~#16~~, #17 Solutions on teacher page

Finish Sheet extra Solutions on slide 7-10 & on teacher page

Quiz/Test on Tomorrow

WS 170

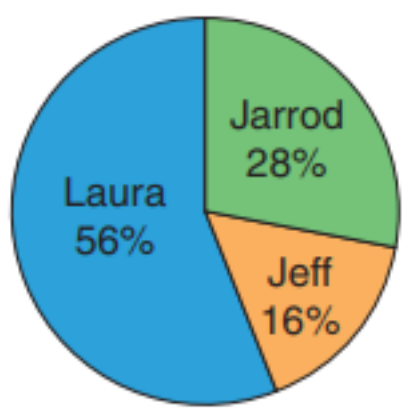
15. The results of the student council election are displayed on a circle graph. Five hundred students voted. The student with the most votes was named president.

a) Which student was named president? How do you know?

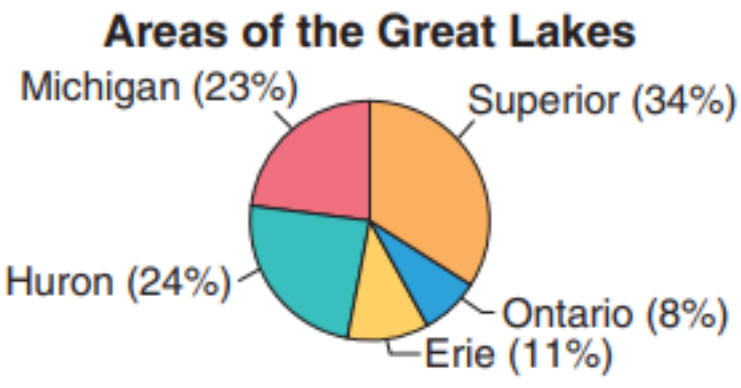
b) How many votes did each candidate receive?

c) Write 2 other things you know from the graph.

Student Council Election Results



16. This circle graph shows the surface areas of the Great Lakes.



a) Which lake has a surface area about $\frac{1}{4}$ of the total area?

b) Explain why Lake Superior has that name.

c) The total area of the Great Lakes is about 244 000 km^2. Find the surface area of Lake Erie.

17. This table shows the approximate chemical and mineral composition of the human body.

Component	Percent
Water	62
Protein	17
Fat	15
Nitrogen	3
Calcium	2
Other	1

a) Draw a circle graph to display these data.

b) Jensen has mass 60 kg. About how many kilograms of Jensen's mass is water?

18. Here are the top 10 point scorers on the 2006 Canadian Women's Olympic Hockey Team. The table shows each player's province of birth.

Manitoba	Saskatchewan
Botterill	Wickenheiser
Quebec	**Ontario**
Ouellette Goyette Vaillancourt	Apps Campbell Hefford Piper Weatherston

a) What percent was born in each province?

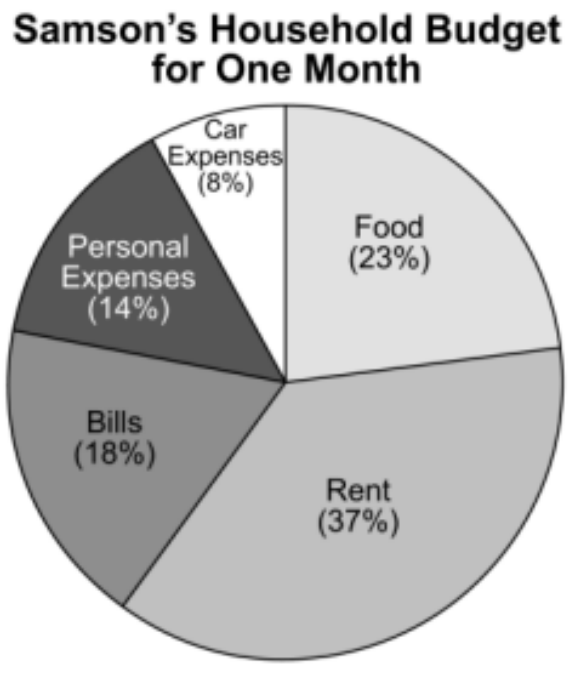
b) Draw a circle graph to display the data in part a.

Worksheet

SOLUTIONS

Interpreting Circle Graphs

1. The circle graph shows Samson's household budget for a month.



a) Samson takes home $2500 per month. How much does he budget for each item?

1) a

car

8% of $2500

0.08 x 2500 = $200

Personal

14% of $2500

0.14 x $2500 = $350

Bills

18% of $2500

0.18 x $2500 = $450

Rent

37% of $2500

0.37 x $2500 = $925

Food

23% of $2500

0.23 x $2500 = $575

b) Samson gets a raise of $500 per month. How will this affect his food budget?

$2500 + $500 = $3000

b) **Food**

23% of $3000

10% of $3000 = $300

20% of $3000 = $600

1% of $3000 = $30

3% of $3000 = $90

23% of $3000 = $690

2. This circle graph shows how much time is spent in one day watching different types of TV programs.

a) Which type of program is watched for the greatest amount of time? news

b) Which two types of programs are watched for approximately the same amount of time? movies & cartoons

c) Estimate the fraction of time spent watching sitcoms. sitcoms: 25%

d) Suppose TV is watched for 1000 days.

Estimate how much time is spent watching sitcoms.

25% of 1000 = 250 days

same as dividing by 4

3) The human body is made up of 20% fat, 18% bone, 50% muscle, and 12% other.

a) Anica's mass is 69 kg. Determine the mass of each part of Anica's body.
i) fat **ii)** bone **iii)** muscle **iv)** other

b) Display the data on a circle graph.

c) What is easily seen on the graph that is not obvious from the data? Explain.

Fat
20% of 69

0.20 x 69 = 13.8kg

Sector Angle
0.2 x 360 = 72°

bone
18% of 69

0.18 x 69 = 12.42kg

Sector Angle
0.18 x 360 = 64.8°

Muscle
50% of 69

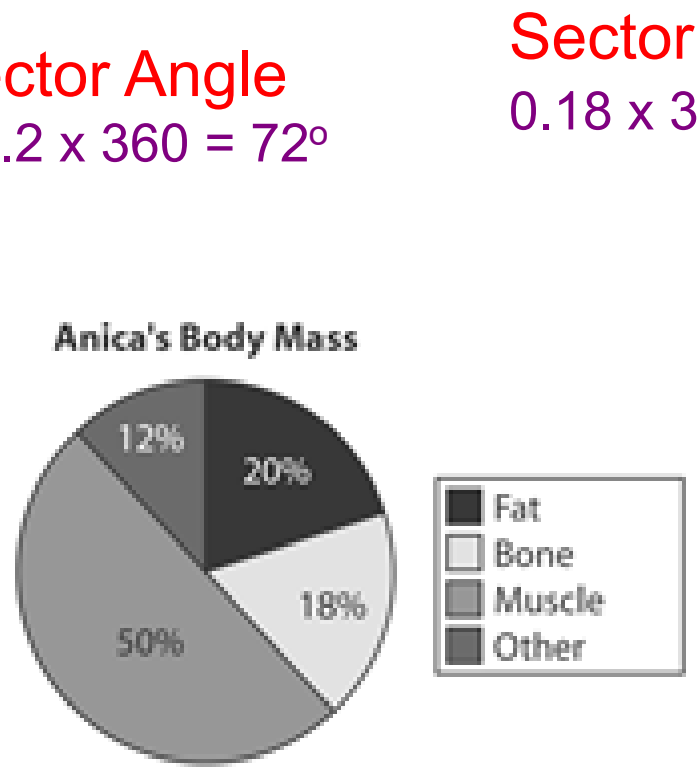
0.50 x 69 = 34.5kg

Sector Angle
0.5 x 360 = 180°

other
12% of 69

0.12 x 69 = 8.28 kg

Sector Angle
0.12 x 360 = 43.2°



c) Half of Anica's body mass is muscle. The majority of body mass is made up of muscle. The visual representation makes this very obvious.

4) To help reduce the cost of the Grade 7 camp weekend, the following amount of money was donated by each group: parents $525, teachers $230, local businesses $340. Students also held a cake auction, which raised $720.

a) How much money was collected?
b) What fraction of the donations was given by local businesses?
c) What percent of the money was raised at the cake auction?
d) Display the data on a circle graph.

a) 525 + 230 + 340+ 720 = 1815

Parents

525 / 1815 = 35 / 121 = 0.289 = 28.9%

0.289 x 360 = 104.04°

Teachers

230 / 1815 = 46 / 363 = 0.127 = 12.7%

0.127 x 360 = 45.72°

Business

340 / 1815 = 68 / 363 = 0.187 = 18.7%

0.187 x 360 = 67.32°

Students

720 / 1815 = 48 / 121 = 0.397 = 39.7%

0.397 x 360 = 142.92°

d)