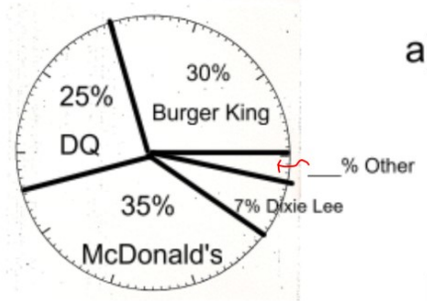
**Warm Up Grade 8**

**Date:** _____

**Show all work:**

1. The grade 12 class has 50 students and made a circle graph of their favorite fast food restaurant.




a) What is the percentage for"other"?

$30 + 25 + 35 + 7 = 97$

$100\% - 97\%$

Other 3%

b) How many students like each restaurant?

**B.K.**

30% of Total

$= 0.30 \times 50$

$= 15$

**McD**

35% of Total

$= 0.35 \times 50$

$= 17.5$

**DQ**

25% of Total

$= 0.25 \times 50$

$= 12.5$

**Dixie Lee**

7% of Total

$= 0.07 \times 50$

$= 3.5$

**Other**

3% of Total

$0.03 \times 50$

$= 1.5$

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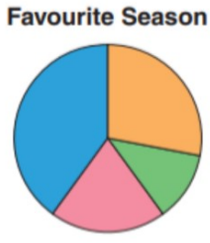
# HW Solutions

**6.** Gaston collected data about the favourite season of his classmates.

**Classmates' Favourite Season**

| Season | Autumn | Winter | Spring | Summer |
|---|---|---|---|---|
| Number of Students | 7 | 3 | 5 | 10 |




He recorded the results in a circle graph.
The graph is not complete.

**a)** How many students were surveyed?
**b)** Write the number of students who chose each season as a fraction of the total number of students, then as a percent.
**c)** Explain how you can check your answers to part b.
**d)** Sketch the graph. Label each sector with its name and percent. How did you do this?

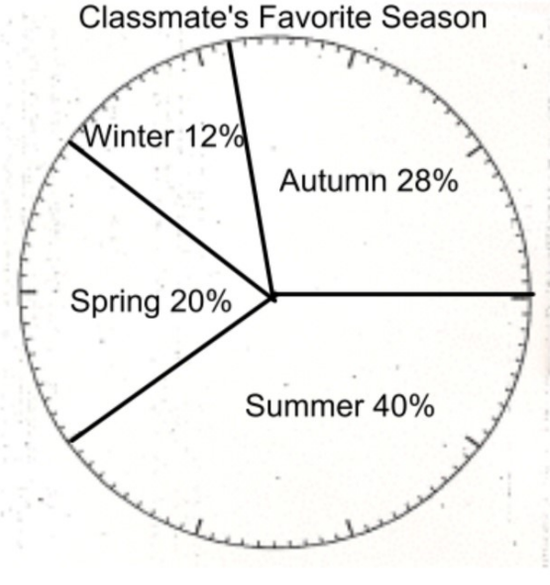
6) a) 7 + 3 + 5 + 10 = 25 students were surveyed

b) Autumn $\frac{7}{25} = \frac{28}{100} = 28\%$

Winter $\frac{3}{25} = \frac{12}{100} = 12\%$

Spring $\frac{5}{25} = \frac{20}{100} = 20\%$

Summer $\frac{10}{25} = \frac{40}{100} = 40\%$



#1) and # 2 Page 163

**1.** The table shows the number of Grade 7 students with each eye colour at Northern Public School.

| Eye Colour | Number of Students |
|---|---|
| Blue | 12 |
| Brown | 24 |
| Green | 8 |
| Grey | 6 |

**a)** Find the total number of students.
**b)** Write the number of students with each eye colour as a fraction of the total number of students.
**c)** Write each fraction as a percent.
**d)** Draw a circle graph to represent these data.

1.(a) $12 + 24 + 8 + 6 = 50$

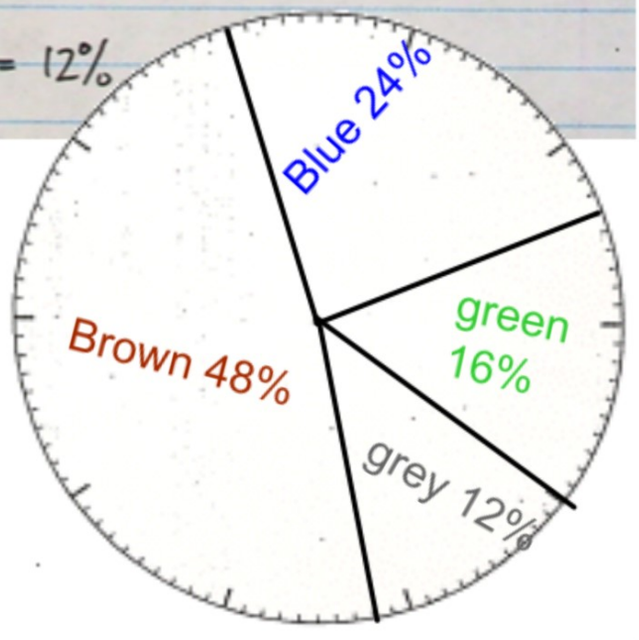
(b) (c) Blue: $\frac{12}{50} = \frac{24}{100} = 0.24 = 24\%$

Brown: $\frac{24}{50} = \frac{48}{100} = 0.48 = 48\%$

Green: $\frac{8}{50} = \frac{16}{100} = 0.16 = 16\%$

Grey: $\frac{6}{50} = \frac{12}{100} = 0.12 = 12\%$

Check: $24\% + 48\% + 16\% + 12\% = 100\%$



HW solutions

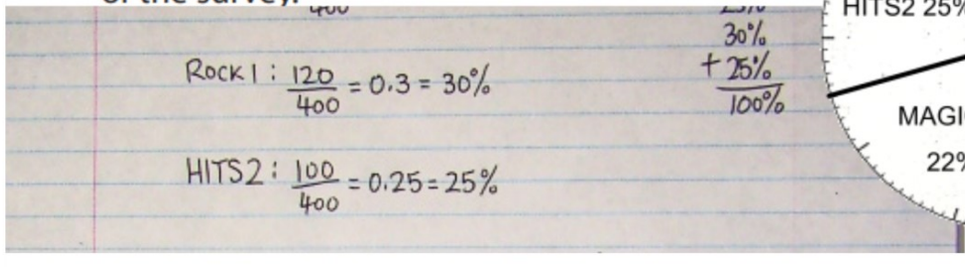
**2.** In a telephone survey, 400 people voted for their favourite radio station.

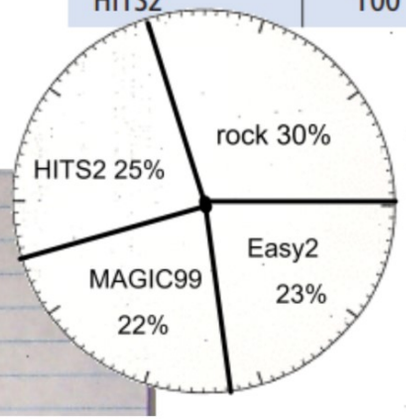
a) How many people chose EASY2?

b) Write the number of people who voted for each station as a fraction of the total number who voted. Then write each fraction as a percent.

c) Draw a circle graph to display the results of the survey.

| Radio Station | Votes |
|---|---|
| MAJIC99 | 88 |
| EASY2 | ? |
| ROCK1 | 120 |
| HITS2 | 100 |

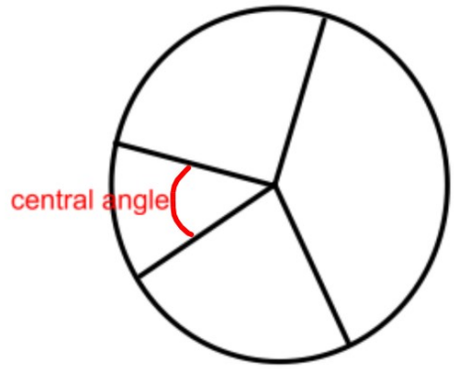



## Circle

The sum of the **central angles** is 360°.

A central angle is also called a **sector angle**.



# Drawing Percent of a Circle

Step 1) Change % to decimal (By dividing by 100)

Step 2) Decimal x $360^0$ give the angle to draw

Step 3) Draw a line from the center of the circle to the outside edge of the circle.

Step 4) Use this line and a protractor to draw angle from step 2. Place a dot and connect that dot to the center dot.

# Example of Drawing Percent of a Circle

30%

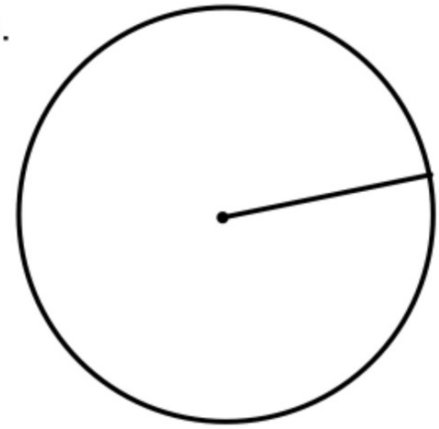
Step 1) Change % to decimal (By dividing by 100)

$30 \div 100 = 0.30$

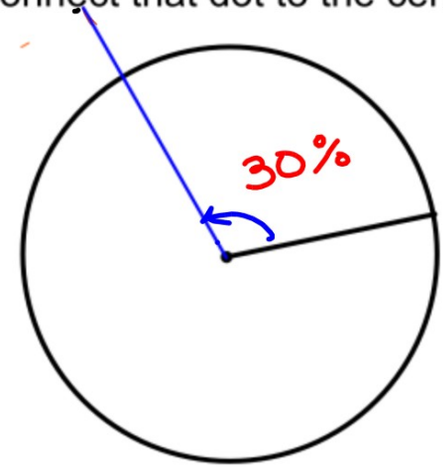
Step 2) Decimal x $360^0$ give the angle to draw

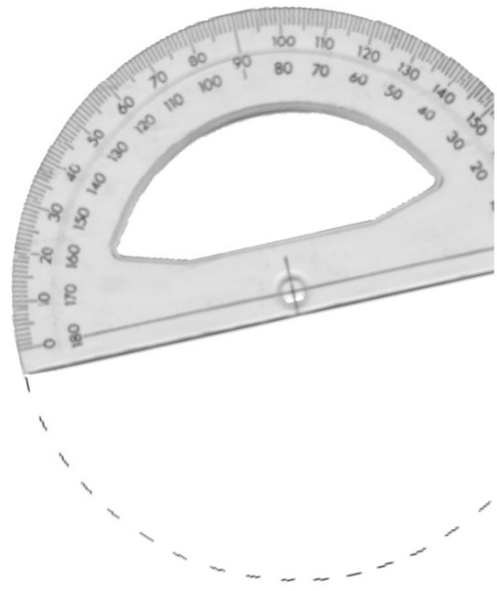
$0.30 \times 360^\circ = 108^\circ$

Step 3) Draw a line from the center of the circle to the outside edge of the circle.



Step 4) Use this line and a protractor to draw angle from step 2. Place a dot and connect that dot to the center dot.



Like test

All the students in two Grade 7 classes were asked how they get to school each day. Here are the results: 9 rode their bikes, 11 walked, 17 rode the bus, and 13 were driven by car.

Construct a circle graph to illustrate these data.

Total = 9 + 11 + 17 + 13 = 50

1. For each type of transport write the number of students as a fraction of the whole. Then write each fraction as a decimal and as a percent.

Bike: $\frac{9}{50} = 0.18 = 18\%$ (Top ÷ Bott; X100) Walk: $\frac{11}{50} = 0.22 = 22\%$

Bus: $\frac{17}{50} = 0.34 = 34\%$ Car: $\frac{13}{50} = 0.26 = 26\%$

Check:

Dec x 360°

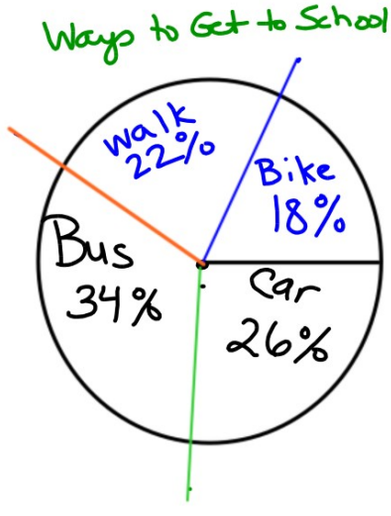
2. To find the sector angle for each type of transport, multiply each decimal by $360^0$.
Use Calculators for this. But show work not just the answer

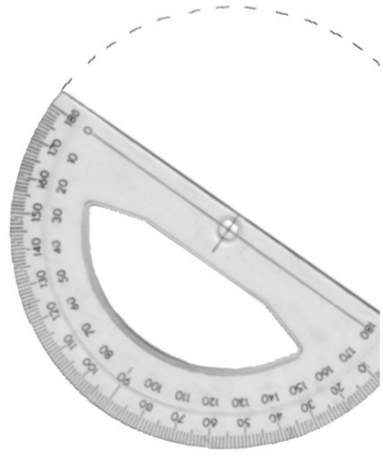
Bike: $0.18 \times 360° = 64.8° \approx 65°$ Walk: $0.22 \times 360° = 79.2° \approx 79°$

Bus: $0.34 \times 360° = 122.4° \approx 122°$ Car: $0.26 \times 360° = 93.6° \approx 94°$

Check:

3. Construct a circle with a compass. Use a protractor to construct each angle.
Start with the smallest angle. Draw a radius.
Start the next sector where the previous sector finished.
Label each sector with its name and percent. Write a title for the graph.

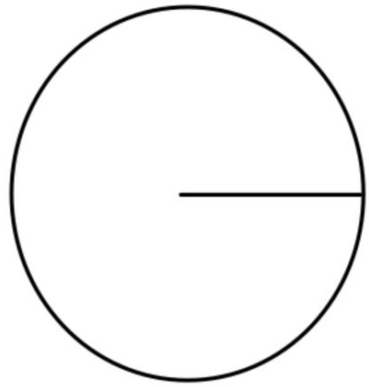


A group of Grade 7 students were asked how many of Canada's other provinces and territories they have visited for at least one day. The data are shown below.

| Number of provinces and territories visited | Number of students |
|---|---|
| 0 | 2 |
| 1 | 4 |
| 2 or 3 | 10 |
| 4 to 6 | 5 |
| 7 to 10 | 3 |
| 11 or 12 | 1 |

Total: 25



**0 Provinces**

$\frac{2}{25} = 0.08 = 8\%$

Sector $= 0.08 \times 360°$
$= 28.8°$
$\approx 29°$

**1 Province**

$\frac{4}{25} = 0.16 = 16\%$

Sector $= 0.16 \times 360°$
$= 57.6°$
$= 58°$

**2-3 Provinces**

$\frac{10}{25} = 0.40 = 40\%$

Sector $= 0.40 \times 360$
$= 144°$

**4-6 Provinces**

$\frac{5}{25} = 0.20 = 20\%$

Sector $= 0.20 \times 360°$
$= 72°$

**7-10 Provinces**

$\frac{3}{25} = 0.12 = 12\%$

Sector $= 0.12 \times 360°$
$= 43.2°$
$= 43°$

**11-12 Provinces**

$\frac{1}{25} = 0.04 = 4\%$

Sector $= 0.04 \times 360°$
$= 14.4°$
$= 14°$