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# 16

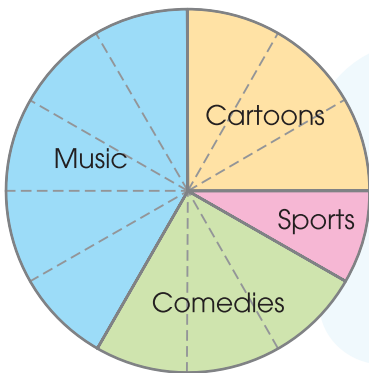
## Circle Graphs

### WORD TO LEARN

**Circle graph** - using parts in a circle to show information about a whole

Helen made a circle graph to show the favorite TV programs of her 24 classmates. Study the graph and answer the questions.

Favorite TV Programs



The circle is divided into 12 equal parts.

Number of students who like cartoons:

$$= \frac{3}{12} \times 24$$

$$= 6$$

6 students like cartoons.

- ① What fraction of students like music? \_\_\_\_\_
- ② What fraction of students like sports? \_\_\_\_\_
- ③ How many students like comedies? \_\_\_\_\_ students
- ④ How many more students like music than sports? \_\_\_\_\_ students

This is Helen's circle graph to show her classmates' favorite food. Use a protractor to find out the degrees covered by each type of food.

⑤ 

Pizza

⑥ 

Spaghetti

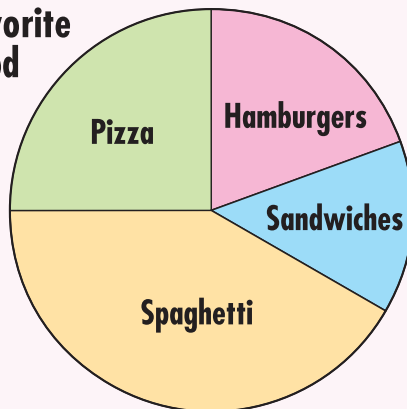
⑦ 

Hamburgers

⑧ 

Sandwiches

Favorite Food



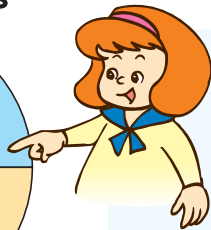
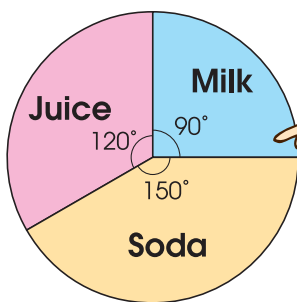
$$\text{Part of a circle in fraction} = \frac{\text{angle size}}{360^\circ}$$

Look at the circle graph and answer the questions. Write each fraction in simplest form.

- ⑨ What fraction of students like pizza? \_\_\_\_\_
- ⑩ What fraction of students like sandwiches? \_\_\_\_\_
- ⑪ If there are 48 students, how many students like spaghetti? \_\_\_\_\_ students
- ⑫ If there are 90 students, how many students like hamburgers or sandwiches? \_\_\_\_\_ students

Study the circle graph and answer the questions. Round the answers to the nearest hundredth.

### Favorite Drinks



To find the percent of a part:

$$\text{Percent of a part} = \frac{\text{angle size}}{360^\circ} \times 100\%$$

$$\begin{aligned} \text{Percent of students who like milk} &= \frac{90^\circ}{360^\circ} \times 100\% \\ &= 25\% \end{aligned}$$

- ⑬ What percent of students like soda? \_\_\_\_\_%
- ⑭ What percent of students like juice? \_\_\_\_\_%

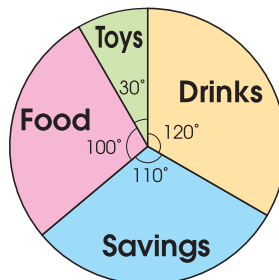


## Activity

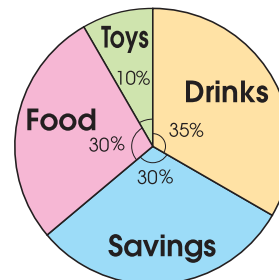
Check ✓ the right circle graph that shows Helen's expenses.



A



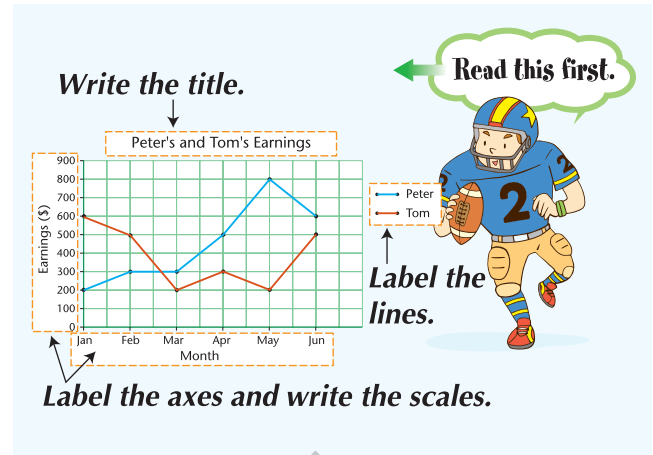
B



C

Brenda and Tammy used a table to record their spending on groceries each month.

	Brenda's spending	Tammy's spending
JAN	\$275	\$325
FEB	\$300	\$200
MAR	\$250	\$75
APR	\$350	\$200
MAY	\$175	\$225
JUN	\$225	\$300



⑨ Use a line graph to show their spending.



⑩ How much more did Brenda spend than Tammy in April?

Answer : \_\_\_\_\_

⑪ How much more did Tammy spend than Brenda in June?

Answer : \_\_\_\_\_

⑫ In which month did Brenda spend the most on groceries? How much more did she spend when compared with the month she spent the least?

Answer : \_\_\_\_\_

⑬ In which month did Tammy spend the least on groceries? How much less did she spend when compared with the month she spent the most?

Answer : \_\_\_\_\_

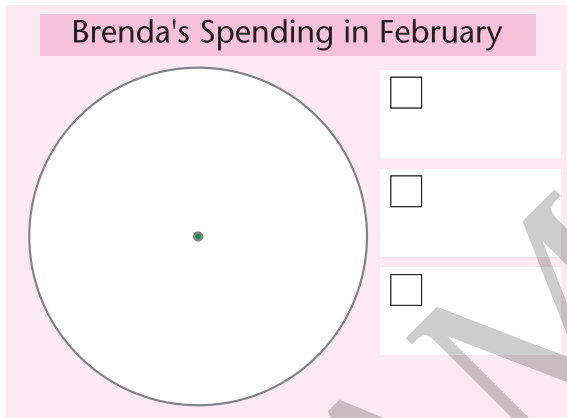
- ⑭ In which month was the difference between Brenda's and Tammy's spending the greatest?

Answer : \_\_\_\_\_

- ⑮ Who spent more money in the six months? How much more?

Answer : \_\_\_\_\_

- ⑯ In February, one-third of Brenda's spending was on meat, one-sixth on vegetables, and the rest on fruit. Use a circle graph to show Brenda's spending in February.



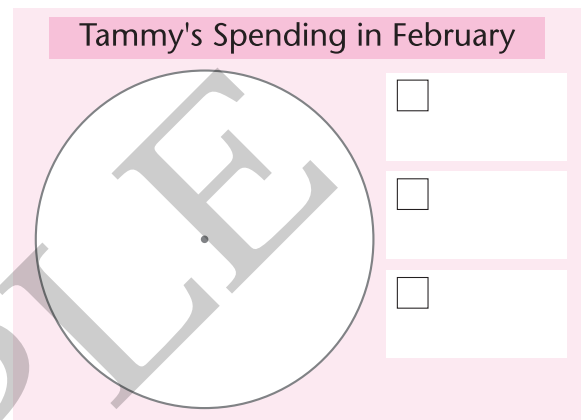
- ⑰ How much did Brenda spend on meat in February?

Answer : \_\_\_\_\_

- ⑱ How much did Brenda spend on fruit in February?

Answer : \_\_\_\_\_

- ⑲ In February, a quarter of Tammy's spending was on meat, one-eighth on vegetables, and the rest on fruit. Use a circle graph to show Tammy's spending in February.



- ⑳ How much did Tammy spend on fruit in February?

Answer : \_\_\_\_\_

- ㉑ Did Tammy spend more money on fruit than Brenda in February? Explain.

Answer : \_\_\_\_\_

## CHALLENGE

- ① Measure the angle of each sector to complete the table.

Marble	Red	Yellow	Blue	Green
Angle				

- ② If Tim had 120 red marbles, how many green marbles did he have?

Answer : \_\_\_\_\_

No. of Marbles  
Tim Had

