

RETEACHING 1-4

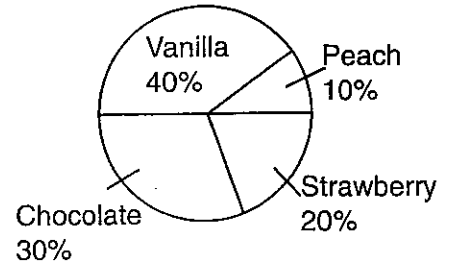
PROBLEM SOLVING SKILLS: CIRCLE GRAPHS

A **circle graph** can be used to show data that is expressed as parts of a whole.

Example

A survey was taken of 50 customers at an ice cream parlor concerning their favorite flavor of ice cream. The circle graph at the right shows the results. Use the graph to answer the questions.

Favorite Ice Cream Flavors



- What percent of the customers surveyed prefer peach ice cream?
- How many of the customers surveyed prefer peach ice cream?
- What percent of the customers surveyed prefer chocolate ice cream?
- How many of the customers surveyed prefer chocolate ice cream?

Solution

- 10% of the customers surveyed prefer peach ice cream.
- 10% of the 50 customers surveyed prefer peach ice cream.

$$\begin{array}{ccc} \downarrow & \downarrow & \downarrow \\ 0.10 & \cdot & 50 = 5 \end{array}$$
 5 of the customers surveyed prefer peach ice cream.
- 30% of the customers surveyed prefer peach ice cream.
- 30% of the 50 customers surveyed prefer peach ice cream.

$$\begin{array}{ccc} \downarrow & \downarrow & \downarrow \\ 0.30 & \cdot & 50 = 15 \end{array}$$
 15 of the customers surveyed prefer peach ice cream.

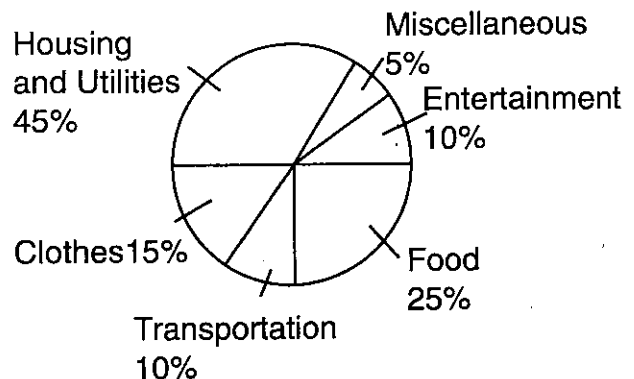
EXERCISES

For Exercises 1–4, use the circle graph from the example.

- What percent of the customers surveyed prefer vanilla ice cream? _____
- How many of the customers surveyed prefer vanilla ice cream? _____
- What percent of the customers surveyed prefer strawberry ice cream? _____
- How many of the customers surveyed prefer strawberry ice cream? _____

Abi made the circle graph to show how she spends her \$2000 a month salary. Use the circle graph for Exercises 5 and 6.

Abi's Monthly Budget



- How much does she spend on clothes each month?

- How much does she spend on housing and utilities each month?

Name _____

Circle Graphs

Circle graphs are also called *pie charts* and are used to show how different parts of a whole compare to one another. The data is usually labeled with percentages to show what part of a whole each part is.

①

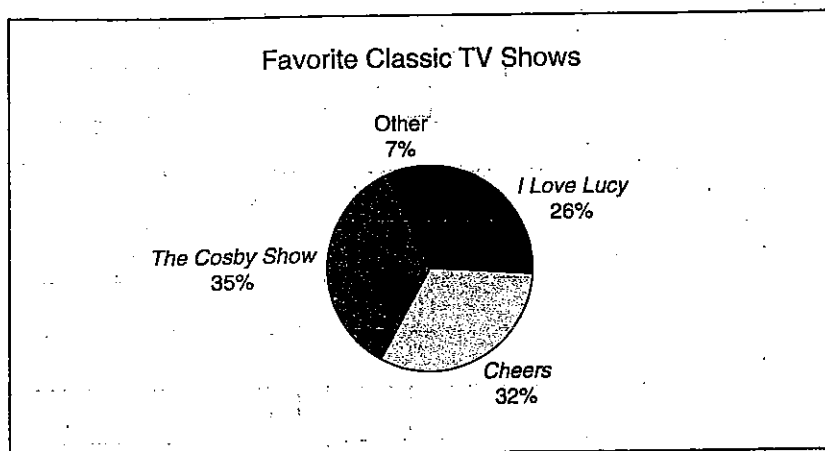
Example

Create a circle graph (pie chart) for Mr. Bonder's monthly budget: rent, \$475; food, \$180; transportation, \$240; entertainment, \$90; savings, \$195.

First create a table as follows and find the total amount of money in the budget. Recall that the measure of a circle is 360° .

Item	Money	Percent of the Total	Measure of Central Angle in Degrees
Rent	\$475		
Food	\$180		
Transportation	\$240		
Entertainment	\$90		
Savings	\$195		
Total		100%	360°

- ② In a poll of 1260 students at Canton Glen Oak High School, students were asked to name their favorite classic TV shows. The results are illustrated.



If two-thirds of the students who voted for *Cheers* were boys, how many boys voted for *Cheers*?

- A. 147 B. 269 C. 403 D. 840

OGT Problem

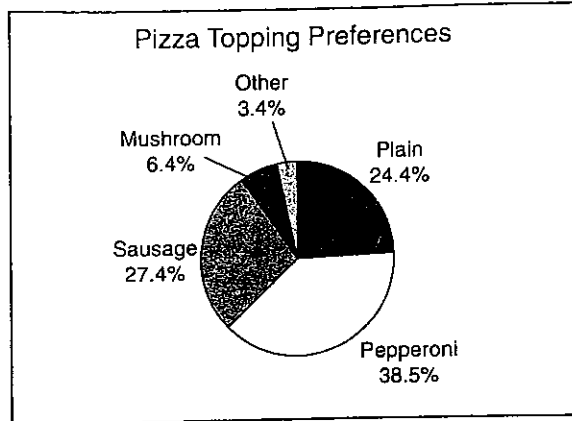
The owners of Wedgewood Pizza collected data one week about the ages of their customers and their favorite pizza toppings. The data is summarized in the table.

FAVORITE PIZZA TOPPINGS

Age Group	Plain	Pepperoni	Sausage	Mushroom	Other	Total
Over 60	35	18	12	10	6	81
26-59	86	23	40	35	10	194
16-25	75	60	30	22	14	201
Under 16	57	90	64	15	8	234

This circle graph illustrates the pizza toppings preferred by which age group?

(a)

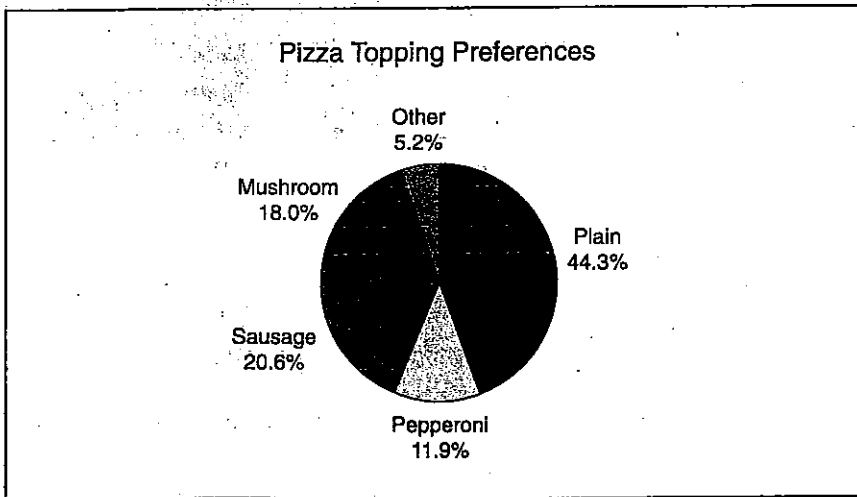


- A. under 16 years
- C. 26 to 59 years

- B. 16 to 25 years
- D. over 60 years

(b)

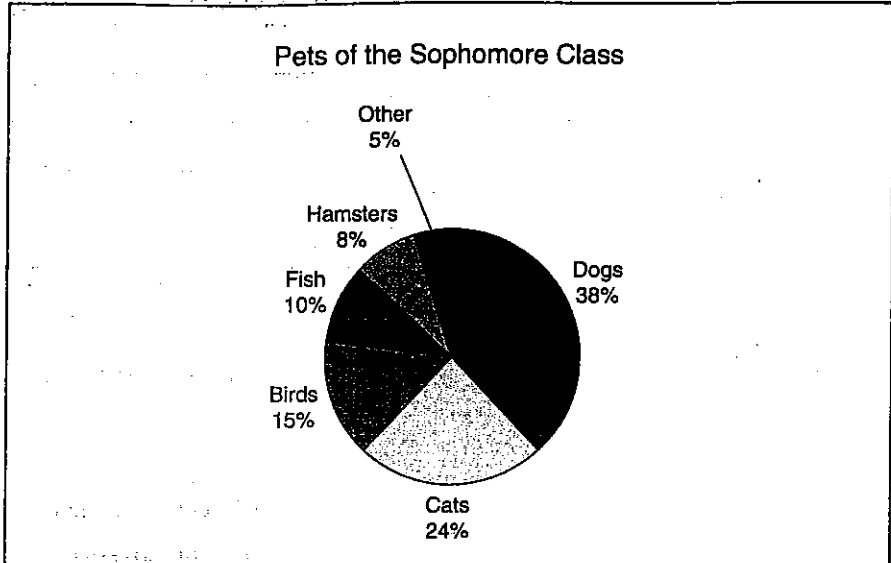
This circle graph illustrates the pizza toppings preferred by which age group?



- A. under 16 years
- B. 16-25 years
- C. 26-59 years
- D. over 60 years

4.

The following graph shows the pet preferences of the sophomore class at Massillon Washington High School.

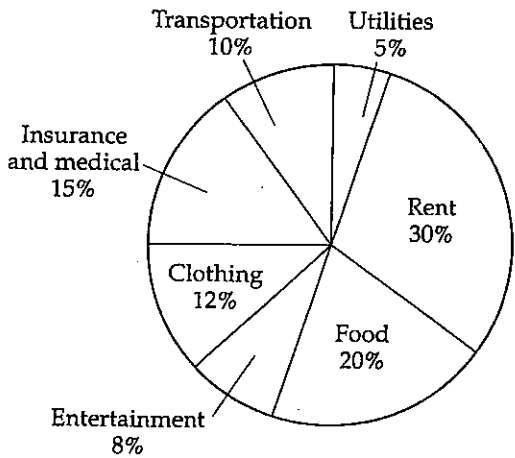


(a) If there are 385 students in the sophomore class, how many students prefer dogs? _____

(b) If 150 students in the sophomore class prefer cats, how many students are sophomores? _____
Note: Question (b) is independent of question (a).

5.

Inez has totaled her expenses for the last year and represented the results in this circle graph. If her total expenses were \$18,000, find the amount spent on each category.



Insurance & medical: _____
 transportation: _____
 utilities: _____
 rent: _____
 Food: _____
 Entertainment: _____
 clothing: _____