

13 TAKS PREPARATION



TAKS Obj. 9
TEKS 8.12.C

REVIEWING BAR GRAPH AND CIRCLE GRAPH PROBLEMS

Bar graphs and circle graphs can be used to represent categorical data so that the relative proportions of different categories are displayed visually.

EXAMPLE

The table gives the number of students, by grade, who are in the school band. Create (a) a circle graph and (b) a bar graph to display the data.

Grade	Band members
Freshmen	21
Sophomores	34
Juniors	48
Seniors	47

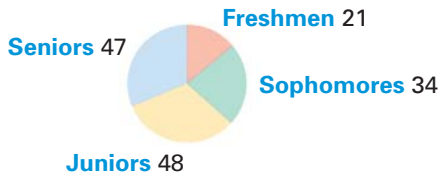
Solution

- a. **STEP 1** Find the angle measure needed for each sector. There are 150 members of the band. Find what fraction of the total data each category represents. Then multiply this by 360° , the number of degrees in a circle.

$$\text{Freshmen: } \frac{21}{150} \cdot 360^\circ = 50.4^\circ \quad \text{Sophomores: } \frac{34}{150} \cdot 360^\circ = 81.6^\circ$$

$$\text{Juniors: } \frac{48}{150} \cdot 360^\circ = 115.2^\circ \quad \text{Seniors: } \frac{47}{150} \cdot 360^\circ = 112.8^\circ$$

- STEP 2** Draw the circle graph.



- b. **STEP 1** Choose a scale for the vertical axis that allows you to draw bars for all the data. The data range from 21 to 48, so a scale of 0 to 50 with intervals of 10 is appropriate.

- STEP 2** Draw the bar graph.

