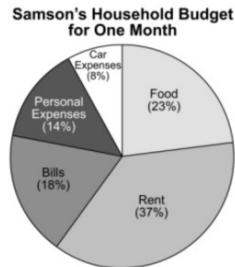


Worksheet

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

<u>car</u>	<u>Personal</u>	<u>Bills</u>
8% of \$2500	14% of \$2500	18% of \$2500
$0.08 \times 2500 = \$200$	$0.14 \times \$2500 = \350	$0.18 \times \$2500 = \450

Rent

37% of \$2500

Food

23% of \$2500

$0.37 \times \$2500 = \925

$0.23 \times \$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

$$10\% \text{ of } \$3000 = \$300$$

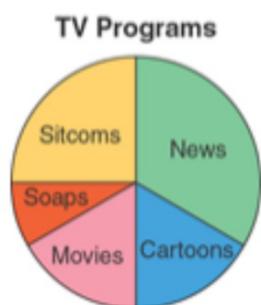
$$20\% \text{ of } \$3000 = \$600$$

$$1\% \text{ of } \$3000 = \$30$$

$$3\% \text{ of } \$3000 = \$90$$

$$23\% \text{ of } \$3000 = \$690$$

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.

$$25\% \text{ of } 1000 = 250 \text{ days}$$

same as dividing by 4

3)

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

- Anica's mass is 69 kg. Determine the mass of each part of Anica's body.
 - fat
 - bone
 - muscle
 - other
- Display the data on a circle graph.
- What is easily seen on the graph that is not obvious from the data? Explain.

Fat
20% of 69

$$0.20 \times 69 = 13.8 \text{ kg}$$

bone
18% of 69

$$0.18 \times 69 = 12.42 \text{ kg}$$

Muscle
50% of 69

$$0.50 \times 69 = 34.5 \text{ kg}$$

other
12% of 69

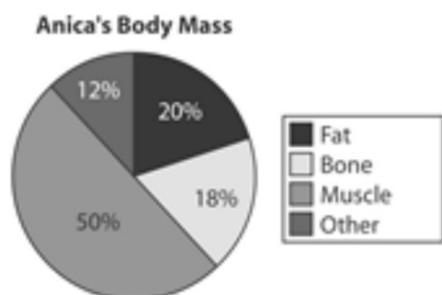
$$0.12 \times 69 = 8.28 \text{ kg}$$

Sector Angle
 $0.2 \times 360 = 72^\circ$

Sector Angle
 $0.18 \times 360 = 64.8^\circ$

Sector Angle
 $0.5 \times 360 = 180^\circ$

Sector Angle
 $0.12 \times 360 = 43.2^\circ$



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.

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

a) $525 + 230 + 340 + 720 = 1815$

Parents

$$\frac{525}{1815} = \frac{35}{121} = 0.289 = 28.9\%$$

Teachers

$$\frac{230}{1815} = \frac{46}{363} = 0.127 = 12.7\%$$

$$0.289 \times 360 = 104.04^\circ$$

$$0.127 \times 360 = 45.72^\circ$$

Business

$$\frac{340}{1815} = \frac{68}{363} = 0.187 = 18.7\%$$

$$0.187 \times 360 = 67.32^\circ$$

Students

$$\frac{720}{1815} = \frac{48}{121} = 0.397 = 39.7\%$$

$$0.397 \times 360 = 142.92^\circ$$

d) Money Raised for
Graduation Camp Weekend

