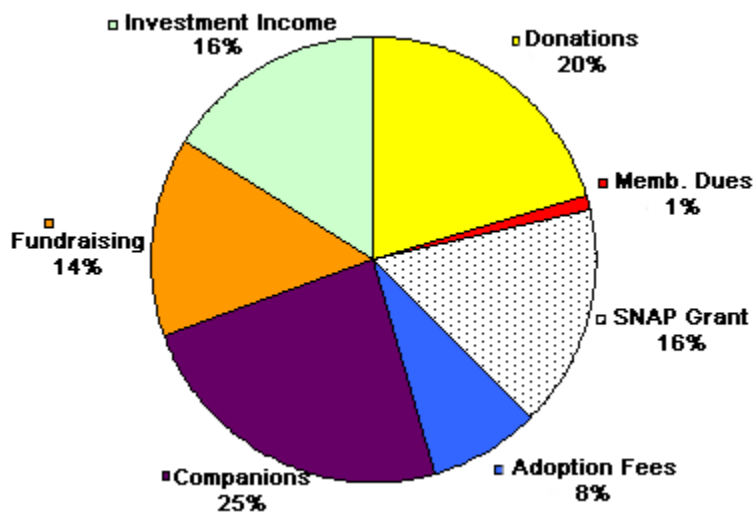


Application: Social Studies

The polar area diagram, or pie chart, was invented by Florence Nightingale to dramatize the extent of needless deaths in British military hospitals during the Crimean War (1854-56). In her book, *Notes on Matters Affecting the Health, Efficiency and Hospital Administration of the British Army*, published in 1858, Nightingale used wedges to represent deaths from what she considered preventable diseases, wounds and other causes.

In economics, pie charts are often used to visualize budgets. In the following pie chart, the annual revenue of a Humane Society is shown. If the annual budget was \$90,000, what amount of the budget came from adoption fees?



Answer: Using proportional reasoning, you can calculate the following:

$$\frac{8}{100} = \frac{x}{90,000}$$

$$100x = 8 \text{ times } 90,000$$

$$x = \frac{720000}{100} \text{ or } \$7,200$$

Thus, the annual amount of revenue earned from adoption fees is \$7,200.