PRINCIPLES - LESSON 5C
APPLICATIONS OF PERCENTAGES

ex1) **A real-estate agent is paid a monthly salary of $1200 plus commissions. Last month she sold one house for $197,500 earning a 3% commission on the sale. How much was her commission? What was her total pay for last month?**

How much was her commission?

Find 3% of $197,500

$$\frac{\text{part}}{\text{whole}} = \frac{\%}{100}$$

$$\frac{x}{197{,}500} = \frac{3}{100}$$

$$100x = 592500$$

$$x = 5925$$

Her commission was $5925.

How much was her total pay?

Total pay = commission + salary

$$\begin{array}{r} \$5925 \\ +\ \$1200 \\ \hline \$7125 \end{array}$$

Her total pay was $7125.

APPLICATIONS OF PERCENTAGES

ex2) If the sales tax rate is 6%, how much tax would you pay if you bought one twin pack of black refill cartridges for your printer for $53.50 and two color cartridges for $32.25 each?

How much will I pay before tax?

$$\begin{array}{r} \$53.50 \\ +\ \$32.25 \\ +\ \$32.25 \\ \hline \$118 \end{array}$$

Find 6% of $118.

$$\frac{\text{part}}{\text{whole}} = \frac{\%}{100}$$

$$\frac{x}{118} = \frac{6}{100}$$

$$100x = 708$$

$$x = 7.08$$

I will pay $7.08 in tax.

APPLICATIONS OF PERCENTAGES

ex3) You earn $1070 monthly. Out of that, $321.00 is withheld for taxes. What percentage of your total earnings are withheld?

$321 is what percent of $1070?

$$\frac{\text{part}}{\text{whole}} = \frac{\%}{100} \qquad \frac{321}{1070} \times \frac{x}{100}$$

$$1070x = 32100$$

$$x = 30$$

30% of my earnings is withheld for taxes.

APPLICATIONS OF PERCENTAGES

ex4) You work in a store where you earn a commission of 7% on all sales but no weekly salary. What will your weekly sales have to be in order to earn $441?

$441 is 7% of what number?

$$\frac{\text{part}}{\text{whole}} = \frac{\%}{100} \qquad \frac{441}{x} = \frac{7}{100}$$

$$7x = 44100$$

$$x = 6300$$

Your weekly sales will have to be $6300 to earn $441.