

Solutions to WS 18.1 - Applications of Percents, #1-8 all

- ① Josh earns a weekly salary of \$300 plus a 6% commission on sales. Last week, his sales totaled \$3500. What was his total pay?

- $300 + 6\% \text{ of } 3500 = \text{total pay}$

$$\frac{x}{3500} = \frac{6}{100} \quad 100x = 21000 \quad \begin{array}{r} 300 \\ + 210 \\ \hline 510 \end{array}$$

$x = 210$

\therefore His total pay was \$510.

- ② In a state with a sales tax rate of 7%, Hernando buys a radio for \$59.99 and a CD for \$13.99. How much is the sales tax?

- $59.99 + 13.99 = 73.98$ total - Find 7% of 73.98

$$\frac{x}{73.98} = \frac{7}{100} \quad 100x = 517.86 \quad \therefore \text{Sales tax is } \$5.18$$

$x = 5.18$

- ③ Last year, Janell earned \$33,095. From this amount, \$7,446.38 was withheld for taxes. What percent of her income was withheld, to the nearest tenth of a percent?

- 7,446.38 is what percent of 33,095?

$$\frac{7446.38}{33095} = \frac{x}{100} \quad 33095x = 744638 \quad \therefore 22.5\% \text{ was withheld for taxes.}$$

$x = 22.5$

- ④ Chuck works as a salesperson at an electronics store. If he earns \$29.94 from a 6% commission on the sale of a video camera, what is the price of the camera?

- 29.94 is 6% of what number?

$$\frac{29.94}{x} = \frac{6}{100} \quad 60x = 2994 \quad \therefore \text{The price of the camera is } \$499.$$

$x = 499$

- ⑤ Marta earns a weekly salary of \$110 plus a 6.5% commission on sales at a hobby store. How much would she make in a week if she sold \$4300 worth of merchandise?

- Find 6.5% of 4300.

$$\frac{x}{4300} = \frac{6.5}{100} \quad 100x = 27950 \quad \begin{array}{r} 279.50 \text{ } \leftarrow \text{Commission} \\ + 110.00 \text{ } \leftarrow \text{Salary} \\ \hline 389.50 \text{ } \leftarrow \text{Total} \end{array}$$

$x = 279.50$

\therefore She would make \$389.50

- ⑥ The sales tax rate in Lisa's town is 5.75%. If she purchases 4 chairs for \$124.99 each and an area rug for \$659.99, how much sales tax does she owe?

4 chairs at \$124.99 each = \$499.96

1 area rug at \$659.99 = \$659.99

Total spent before tax = \$1,159.95

Find 5.75% of 1159.95

$$\frac{x}{1159.95} = \frac{5.75}{100} \quad 100x = 6669.71$$

$x = 66.70$

\therefore Lisa owes \$66.70 in sales tax.

(Solutions to WS 3.6 - Applications of Percents, #1-8 all)

⑦ Jan typically earns \$435 each week, of which \$78.30 is withheld for taxes.
What percent of Jan's earnings are withheld each week?

- 78.30 is what percent of 435? $\frac{78.30}{435} = \frac{x}{100}$ $435x = 7830$
 $x = 18$

∴ 18% of Jan's earnings are withheld each week.

⑧ Heather works in a clothes shop where she earns a commission of 5% and no weekly salary. What will Heather's weekly sales have to be for her to earn \$375?

- 375 is 5% of what number? $\frac{375}{x} = \frac{5}{100}$ $5x = 37500$
 $x = 7500$

∴ Heather's weekly sales will have to be \$7500.