

ALL PROBLEMS CAN BE COMPLETED ON THIS WORKSHEET

**WS 5C.1 - Applications of Percentages**

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

Commission: 6% of 3500

$$\frac{\text{part}}{\text{whole}} = \frac{\%}{100} \quad \frac{x}{3500} = \frac{6}{100}$$

$$100x = 21000$$

$$\underline{x = 2100}$$

$$\begin{aligned} \text{total pay} &= \text{salary} + \text{commission} \\ &= 300 + 2100 \\ &= 2400 \end{aligned}$$

Josh's total pay was \$2400.

2. In a state with a sales tax rate of 7%. Francisco buys a pair of jeans for \$59.99 and a graphic tee for \$13.99. How much is the sales tax?

$$\begin{array}{r} \text{total sales} = \$59.99 \\ + 13.99 \\ \hline \$73.98 \end{array}$$

Sales tax: 7% of 73.98

$$\frac{\text{part}}{\text{whole}} = \frac{\%}{100} \quad \frac{x}{73.98} = \frac{7}{100}$$

$$100x = 517.86$$

$$x \approx 5.18$$

The sales tax is \$5.18.

3. Last year, Emily earned \$33,095. From this amount, \$7466.38 was withheld for taxes. To the nearest tenth of a percent, what percentage of her income was withheld?

What percent of 33095 is 7466.38?

$$\frac{\text{part}}{\text{whole}} = \frac{\%}{100} \quad \frac{7466.38}{33095} = \frac{x}{100} \Rightarrow 33095x = 746638$$

$$x \approx 22.6$$

About 22.6% of Emily's income was withheld.

4. Liam works as a salesperson at an electronics store. If he earns \$116.82 from a 9% commission on the sale of an LCD TV, what is the price of the TV?

116.82 is 9% of what number?

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

$$\frac{116.82}{x} = \frac{9}{100}$$

$$9x = 11682$$

$$x = 1298$$

The price of the TV is \$1298.

5. Luisa earns a weekly salary of \$450 plus a 7.5% commission on sales at a hobby store. How much would she make in a week if she sold \$4300 worth of merchandise?

Commission: 7.5% of 4300

$$\frac{\text{part}}{\text{whole}} = \frac{\%}{100} \quad \frac{x}{4300} = \frac{7.5}{100}$$

$$100x = 32250$$

$$x = \underline{322.50}$$

$$\begin{aligned} \text{total pay} &= \text{salary} + \text{commission} \\ &= 450 + 322.50 \\ &= 772.50 \end{aligned}$$

Luisa earned a total of \$772.50.

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

$$\begin{aligned} \text{total sales} &= 4 \cdot 124.99 + 659.99 \\ &= 499.96 + 659.99 \\ &= \$1159.95 \end{aligned}$$

sales tax: 5.75% of 1159.95

$$\frac{\text{part}}{\text{whole}} = \frac{\%}{100} \quad \frac{x}{1159.95} = \frac{5.75}{100}$$

$$100x = 6669.7125$$

$$x \approx 66.70$$

Albin owes \$66.70 sales tax.

7. Jomby typically earns \$570 each week, of which \$111.15 is withheld for taxes. What percentage of Jomby's earnings are withheld each week?

What percent of 570 is 111.15?

$$\frac{\text{part}}{\text{whole}} = \frac{\%}{100} \quad \frac{111.15}{570} = \frac{x}{100} \quad \Rightarrow \quad 570x = 11115$$

$$x = 19.5$$

19.5% of Jomby's earnings are withheld.

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

375 is 5% of what number?

$$\frac{\text{part}}{\text{whole}} = \frac{\%}{100} \quad \frac{375}{x} = \frac{5}{100} \quad 5x = 37500$$

$$x = 7500$$

Lila's sales must be \$7500 for her to earn \$375 in commission.