

NAME \_\_\_\_\_ HW# 7

1. A Real Estate Agent earns 4% commission. If he sells a house totaling \$550,000, how much does he earn?

$$\begin{aligned} \text{Commission} &= \% \cdot \text{sales} \\ n &= (.04)(550000) \\ n &= \boxed{\$22000} \end{aligned}$$

2. The clothing salesperson at Macy's works on commission. If she sells clothes that total \$450.65 and earns \$38.31 in commission, what is her commission rate of the sales to the nearest tenth of a percent?

$$\begin{aligned} \text{Comm} &= \% \cdot \text{sales} \\ \frac{38.31}{450.65} &= \frac{n\% \cdot 450.65}{450.65} \\ .085 &= n\% \\ n &= \boxed{8.5\%} \end{aligned}$$

3. The price of a car is \$35,800. If the sales tax is 7.5%, what is the total cost?

$$\begin{aligned} \text{tax} &= \% \cdot \text{price} \\ n &= (.075)(35800) \rightarrow 2685 \\ n &= \$2685 \\ \text{Total} &= 35800 + 2685 \\ n &= \boxed{\$38485} \end{aligned}$$

4. A bill for a meal is \$87.25. Find the total cost if the customer leaves a 20% tip.

$$\begin{aligned} \text{tip} &= \% \cdot \text{price} \\ n &= (.20)(87.25) \rightarrow 17.45 \\ n &= \$17.45 \\ \text{Total} &= 87.25 + 17.45 \\ n &= \boxed{\$104.70} \end{aligned}$$

5. If you go out to eat and your family dinner totals \$87.30, and you decide to leave a tip of \$9.60, would that be reasonable (assuming 15-20% is reasonable)? Show math to support your answer.

$$\begin{aligned} \text{tip} &= \% \cdot \text{price} \\ \frac{9.60}{87.30} &= \frac{n\% \cdot 87.30}{87.30} \\ 0.1099... &= n\% \\ n &= \boxed{11\%} \end{aligned}$$

No

6. When you purchased a sweater for \$55.00, you paid \$4.74 in sales tax. What was the % of tax rate that you paid to the nearest tenth of a percent?

$$\begin{aligned} \text{tax} &= \% \cdot \text{price} \\ \frac{4.74}{55} &= \frac{n\% \cdot 55}{55} \\ 0.0861... &= n\% \\ n &= \boxed{8.6\%} \end{aligned}$$

7. You and two friends went out to dinner. The bill, before sales tax and tip, was \$115.00. A sales tax of 8.5% was added. You and your friends then tipped 22% on the amount after the sales tax was added. If you and your friends are splitting the total bill evenly, how much do you each owe?

$$\begin{aligned} \text{tax} &= \% \cdot \text{price} \\ n &= (.085)(115) \\ n &= \$9.78 \\ 115 + 9.78 &= \$124.78 \\ \text{tip} &= \% \cdot \text{price} \\ n &= (.22)(124.78) \\ n &= \$27.45 \\ \text{TOTAL PRICE} &= 124.78 + 27.45 = \boxed{\$152.23} \\ 152.23 \div 3 &= \boxed{\$50.74 \text{ per}} \end{aligned}$$