

Lesson 6-6

Objective – To solve problems involving commission, tax, and profit.

The tax on an \$80 sweater is $6\frac{1}{2}\%$. What is the tax?

$$\begin{array}{r} 4 \\ 0.065 \\ \times 80 \\ \hline 000 \\ 5200 \\ \hline 5200 \end{array}$$

Tax = $6\frac{1}{2}\%$ of 80
 Tax = 0.065% of 80
 Tax = $0.065 \cdot 80 = \$5.20$

Tax, Commission, and Tips

The sales tax on a pair of shoes is $7\frac{1}{4}\%$. If the shoes cost \$72, what will be the total paid including tax?

$$\begin{array}{r} 13 \\ 1 \\ 0.0725 \\ \times 72 \\ \hline 1450 \\ 50750 \\ \hline 52200 \end{array}$$

Tax = $7\frac{1}{4}\%$ of 72
 Tax = 0.0725% of 72
 Tax = $0.0725 \cdot 72 = \$5.22$
 Total Price = Original Price + Tax
 Total Price = $\$72 + \$5.22 = \$77.22$

Julie paid \$24 for a DVD plus \$1.86 sales tax. What percent sales tax did she pay?

\$1.86 is what percent of \$24?

$$1.86 = n\% \cdot 24$$

$$\frac{1.86}{24} = \frac{n\% \cdot 24}{24}$$

$$0.0775 = n\%$$

$$7.75\% = n$$

7.75% sales tax

Tax, Commission, and Tips

Colby makes a 15% commission on all clothing he sells at a men's store. If he sells \$4200 in merchandise, what will he make?

Commission = 15% of 4200

$$\begin{array}{r} 1 \\ 4200 \\ \times 0.15 \\ \hline 21000 \\ 42000 \\ \hline 63000 \end{array}$$

Commission = $0.15 \cdot 4200 = \$630$

Tax, Commission, and Tips

Melanie earns average tips of 18% while waiting tables at a local restaurant. If her sales one night were \$730, what did she make in tips?

Tips = 18% of 730

$$\begin{array}{r} 2 \\ 730 \\ \times 0.18 \\ \hline 15840 \\ 7300 \\ \hline 13140 \end{array}$$

Tips = $0.18 \cdot 730 = \$131.40$

Mark earns a 12% commission on all the cars he sells. He expected his sales in July to be \$35,000, but he was only able to sell \$28,000. How much less were his commissions than expected?

Expected	Actual
12% of \$35,000	12% of \$28,000
$0.12 \cdot (35,000)$	$0.12 \cdot (28,000)$
\$4200	\$3360
$\$4200 - \$3360 = \$840$ less than expected	
or	
12% of $(35,000 - 28,000)$	
$0.12 \cdot (7,000)$	
\$840 less than expected	