

SALES TAX AND COMMISSION

Recall: $\% \cdot \text{TOTAL} = \text{PORTION}$

The formula for sales tax follows this format:

$$\left(\begin{array}{c} \% \\ \text{sales tax} \end{array} \right) \cdot \left(\begin{array}{c} \text{purchase} \\ \text{price} \end{array} \right) = \left(\begin{array}{c} \text{Amount of} \\ \text{sales tax} \end{array} \right)$$

From this, we can say the following word statement:

The amount of sales tax is a percentage of the purchase price.

which can be translated to the following math statement:

$$\left(\begin{array}{c} \text{Amount of} \\ \text{sales tax} \end{array} \right) = \left(\begin{array}{c} \% \\ \text{sales tax} \end{array} \right) \cdot \left(\begin{array}{c} \text{purchase} \\ \text{price} \end{array} \right)$$

NOTE: To find the total amount paid at the cash register, we must sum the purchase price and the amount of sales tax.

$$\text{Total Amount} = \text{Purchase Price} + \text{Amount of sales tax}$$

↳

EXAMPLE 1:

SUPPOSE the sales tax rate in a certain county is 7%. If the price of a calculator is \$34.95, what is the sales tax?
What is the total price?

$$\text{Amount of sales tax} = \left(\begin{array}{c} \% \\ \text{sales tax} \end{array} \right) \left(\begin{array}{c} \text{Purchase} \\ \text{price} \end{array} \right)$$

=

$$\text{Total Price} = \left(\quad \right) + \left(\quad \right)$$

=

NOTE: Don't forget, we must change all percents to decimals to solve for the unknown.

↳

EXAMPLE 2:

If the purchase price of a television is \$276 and the sales tax is \$13.80, what is the sales tax rate?

$$\text{Sales tax} = \left(\frac{\text{tax}}{\text{rate}} \right) \left(\frac{\text{Purchase}}{\text{Price}} \right)$$

$$\underline{\hspace{2cm}} = \underline{\hspace{2cm}} \cdot \underline{\hspace{2cm}}$$

$$x = \underline{\hspace{2cm}}$$

and as a percent:

$$x = \boxed{\hspace{2cm}}$$

COMMISSION

The formula for commission is:

$$\left(\begin{array}{l} \text{Amount of} \\ \text{commission} \end{array} \right) = \left(\begin{array}{l} \% \\ \text{commission} \end{array} \right) \left(\begin{array}{l} \text{Total} \\ \text{sales} \end{array} \right)$$

NOTE: The commission rate is a Percent and the commission is a dollar amount

↳ Example 3:

A real estate agent has a commission rate of 3.5% and sells a property for \$240,000.

What is her commission?

$$\left(\quad \right) = \left(\quad \right) \left(\quad \right)$$

$$x = \underline{\hspace{2cm}}$$

↳

EXAMPLE 4:

If the commission for a car is
\$516 and the car sold for
\$12,000, what is the
commission rate?

SALES TAX and COMMISSION Practice Problems

1. If the purchase price of a stereo system is \$625 and the sales tax is \$37.50, what is the sales tax rate?

2. If the commission rate for an appliance is 2.5% and it sells for \$945, what is the commission?