

Sales Tax: additional amount of money charged on items people buy; it is a percentage of the original price added to the original price

Tip (gratuity): small amount of money in return for a service; percentage generally depends on performance/quality of service (added to the original price)

Ex. 1 Find the total cost or sale price to the nearest cent. (hundredths place)

Note: Total cost = 100% price + % of tax/tip

A) Soccer ball costs \$30, 6% tax

Tax

$$\frac{x}{30} = \frac{6}{100}$$

$$100x = 30 \cdot 6$$

$$\frac{100x}{100} = \frac{180}{100}$$

$$x = 1.8$$

$$\$1.80$$

$$\begin{array}{r} \text{Total: } \$30.00 \\ + 1.80 \\ \hline \$31.80 \end{array}$$

Customer pays: total
100% + 6% = 106%

$$\frac{x}{30} = \frac{106}{100}$$

$$100x = 30 \cdot 106$$

$$\frac{100x}{100} = \frac{3180}{100}$$

$$x = 31.80$$

$$\boxed{\$31.80}$$

B) \$26 dinner, 20% tip

$$\text{Tip } \frac{x}{26} = \frac{20}{100}$$

$$100x = 26 \cdot 20$$

$$\frac{100x}{100} = \frac{520}{100}$$

$$x = 5.2$$

$$\$5.20$$

$$\begin{array}{r} \text{Total: } \$26.00 \\ + 5.20 \\ \hline \$31.20 \end{array}$$

Total: Customer pays
100% + 20% = 120%

$$\frac{x}{26} = \frac{120}{100}$$

$$100x = 26 \cdot 120$$

$$\frac{100x}{100} = \frac{3120}{100}$$

$$x = 31.2$$

$$\boxed{\$31.20}$$

C) A manicure costs \$18. The sales tax is 8.25% and you want to leave a 20% tip. Is \$22 enough to cover the cost including the tax and tip?

Tip is based on original price

$$\text{Tip: } \frac{x}{18} = \frac{20}{100}$$

$$\frac{100x}{100} = \frac{360}{100}$$

$$x = 3.6$$

$$\text{Tax: } \frac{x}{18} = \frac{8.25}{100}$$

$$\frac{100x}{100} = \frac{148.5}{100}$$

$$x = 1.485$$

$$\begin{array}{r} \text{Total: } \$18.00 \\ + 3.60 \\ + 1.49 \\ \hline \$23.09 \end{array}$$

No, \$22 is not enough to cover all expenses.

D) \$120 DVD player; 6.25% tax
Find the tax and total cost.

$$\text{Tax: } \frac{x}{120} = \frac{6.25}{100}$$

$$\frac{100x}{100} = \frac{750}{100}$$

$$x = 7.5$$

$$\boxed{\text{Tax: } \$7.50}$$

Total:

$$\begin{array}{r} \$120.00 \\ + 7.50 \\ \hline \$127.50 \end{array}$$

$$\boxed{\text{Total: } \$127.50}$$