

Practice Solving Problems Involving Multiple Percents

- Study the Example showing how to solve a problem involving multiple percents. Then solve problems 1–5.

Example

Store A sells a computer for \$1,200. The computer is on sale for 15% off. The sales tax is 5.4%. What is the total cost of the computer?

A discount of 15% is the same as paying 85%.

Paying a 5.4% sales tax is the same as paying 105.4%.

$$(1.054)(0.85)(1,200) = 1,075.08$$

The total cost is \$1,075.08.

- 1 Store B sells the same computer as in the Example for \$1,300. Store B offers a 20% discount on the computer. The tax rate is the same. Which store has the lower total price? How much lower? Show your work.

$$1300(0.80)(1.054) = 1096.16$$

$$\begin{array}{r} 1096.16 \\ - 1075.08 \\ \hline 21.08 \end{array}$$

SOLUTION Store A is less by \$21.08

- 2 A lacrosse league has 20 teams in its first year. The number of teams in the league increases by 20% in its second year. In the third year, the number of teams decreases by 25% from the second year. How many teams are in the league in the third year? Show your work.

$$20(1.20) = 24$$

$$24(0.75) = 18$$

SOLUTION There are 18 teams in the third year



- 3 Galeno wants to buy a video game at a store having a 20%-off storewide sale. The regular price of the video game is \$50. Galeno also has a coupon for an extra 5% off the sale price of any video game. Sales tax on the video game is 5.75%. How much does Galeno pay for the video game? Show your work.

$$\begin{aligned} 50(0.80) &= 40 \\ 40(0.95) &= 38 \\ 38(1.0575) &= 40.185 \end{aligned}$$

SOLUTION Galeno will pay \$40.19

- 4 Jesse's starting salary is \$30,000 a year. Jesse gets a 3% raise after his first year. Then Jesse gets a 10% bonus on his second-year salary. How much is Jesse's bonus? Show your work.

$$\begin{aligned} 30,000(1.03) &= 30,900 \\ 30,900(0.1) &= 3,090 \end{aligned}$$

SOLUTION Jesse's bonus is \$3,090

- 5 Volunteers collect and remove litter from a park. They collect 20 cans. They also collect 50% more glass bottles than cans and 110% more plastic bottles than glass bottles. How many plastic bottles do the volunteers collect? Show your work.

$$\begin{aligned} 20(1.5) &= 30 \text{ glass} \\ 30(2.1) &= 63 \text{ plastic} \end{aligned}$$

SOLUTION Volunteers collect 63 plastic bottles