

Name: \_\_\_\_\_

Date \_\_\_\_\_

Period \_\_\_\_\_

### Multi-Step Proportions Practice

For all problems below, write and solve proportions to find the answers. Include units with your answers.

1. At Larry's Auto Dealership, Larry earns 7% commission on every Rambler SUV he sells. Each Rambler sells for \$33,000. Last month, Larry sold 4 Rambler SUVs. How much commission did he make last month?

$$\frac{\$33,000}{100\%} = \frac{\$2,310}{7\% \text{ commission}}$$

*SP car*  $\times 0.07$   $\rightarrow$   $\frac{2,310 \text{ one car commission}}{\times 4 \text{ cars}} = \$9,240 \text{ total commission earned}$

2. Larry decides to have a sale on his 4-door sedans. He offers customers a choice of \$1,500 off the price or 6% discount off the price. Larry's sedans are originally priced at \$26,000. Which is the better deal for his customers?

$$\frac{26000}{100\%} = \frac{15600}{94\% \text{ discount}}$$

$\times 0.06 \rightarrow$   $\frac{26000 \times 0.06}{100\%} = 1560$  discount  $\$1,560 > \$1,500$  so 6% is greater discount

3. A veterinarian's clinic has a patient load where the ratio of cats to dogs is 12 to 4. What percent of the total patients are cats?

$$\frac{12 \text{ cats}}{16 \text{ total animals}} = \frac{75\% \text{ cats}}{100\% \text{ animals}}$$

$\times 6.25$   $\rightarrow$   $\frac{12 \times 6.25}{16 \times 6.25} = \frac{75}{100}$  75% are cats

4. After eating at your favorite restaurant, you know that the bill before tax is \$52.60, and that the sales tax is 8%. You decide to leave a 20% tip for the waiter based on the pre-tax amount. What will be the amount of the total bill, including tax and tip?

$$\frac{\$52.60 \text{ meal}}{100\%} = \frac{\$67.33}{128\% \text{ tip + sales tax}}$$

*original*  $\times 1.28$   $\rightarrow$   $\frac{52.60 \times 1.28}{100\%} = 67.33$  \$67.33

5. Nancy wants to put a birdseed mix in her birdfeeder. The mix is 20% wild bird seed and 80% sunflower seed. Her birdfeeder can hold 8 cups of birdseed. How cups of each type of bird seeds will she need to fill the birdfeeder?

$$\frac{20\% \text{ wild seed}}{100\% \text{ total seed}} = \frac{1.6 \text{ cups}}{8 \text{ cups total}}$$

$\times 0.08$   $\rightarrow$   $\frac{20 \times 0.08}{100 \times 0.08} = \frac{1.6}{8}$  wild seed = 1.6 cups  
8 cups - 1.6 cups = 6.4 cups sunflower

6. The Sports Depot is having a sale. Mike buys a pair of gloves that originally cost \$24, but are on sale for 25% off. He also buys a pair of skis that originally cost \$250, but are on sale for 15% off. What is the total amount that Mike pays for his new gear?

$$\frac{\$24}{100\% \text{ cost}} = \frac{\$18 \text{ cost with discount}}{75\%}$$

*original*  $\times 0.75$   $\rightarrow$   $\frac{24 \times 0.75}{100\%} = 18$

$\frac{\$250}{100\%} = \frac{\$212.50}{85\%}$   
 $\times 0.85 \rightarrow$   $\frac{250 \times 0.85}{100\%} = 212.50$  *discounted price*

$\$18 \text{ for gloves}$   
 $212.50 \text{ for skis}$   
\$230.50 total cost