Name: __key__   Date _____   Period_____

Multi-Step Proportions Practice

For all problems below, write and solve <u>proportions</u> 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?

$$\frac{\$33,000}{100\%} = \frac{\$x}{7\%}$$ (·0.07)

$x = 33,000 \cdot 0.07 = \$2310$ per SUV

$2310 \cdot 4 = \boxed{\$9240 \text{ commission}}$

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?

$$\begin{array}{r} 26000 \\ -1500 \\ \hline \$24500 \end{array}$$

$$\frac{\$26000}{100\%} = \frac{\$x}{6\%}$$ (·0.06)

$x = 26000 \cdot 0.06 = 1560$

$26000 - 1560 = \$24,440$

$\boxed{6\% \text{ discount is better.}}$

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?

total patients = $12 + 4 = 16$

$$\frac{12 \text{ cats}}{16 \text{ total}} = \frac{x\%}{100\%}$$ (·6.25)

$x = 12 \cdot 6.25 = \boxed{75\% \text{ cats}}$

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% top for the waiter based on the pre-tax amount. What will be the amount of the total bill, including tax and tip?

$$\frac{\$52.60}{100\%} = \frac{tip}{20\%}$$ (·0.2)

$$\frac{\$52.60}{100\%} = \frac{tax}{8\%}$$ (·0.08)

$$\begin{array}{r} 52.60 \\ 10.52 \\ + 4.208 \\ \hline 67.328 \end{array}$$

tip $= 52.60 \cdot 0.2 = \$10.52$

tax $= 52.60 \cdot 0.08 = \$4.208$

$\boxed{\$67.33 \text{ total}}$

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 <u>of each type</u> of bird seeds will she need to fill the birdfeeder?

$$\frac{20\% \text{ wild}}{100\%} = \frac{x \text{ cups wild}}{8 \text{ cups}}$$ (·0.08)

$$\frac{80\% \text{ sunflower}}{100\%} = \frac{x \text{ cups sunflower}}{8 \text{ cups}}$$ (·0.08)

$x = 80 \cdot 0.08 = \boxed{6.4 \text{ cups sunflower seeds}}$

$x = 20 \cdot 0.08 = \boxed{1.6 \text{ cup wild bird seed}}$

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?

$$\frac{\$24}{100\%} = \frac{\$x}{25\%}$$ (0.25)

$x = 24 \cdot 0.25 = \$6$

$24 - 6 = \boxed{\$18 \text{ gloves}}$

$$\frac{\$250}{100\%} = \frac{\$x}{15\%}$$ (0.15)

$x = 250 \cdot 0.15 = \$37.50$

$250 - 37.50 = \boxed{\$212.50 \text{ skis}}$

$18 + 212.50 = \boxed{\$230.50 \text{ total}}$