Name_____ Date_____ Period_____

LESSON 3-7 · SESSION 2 · PRACTICE · FORM B

Multi-Step System Conversions and Dosage

Learning target – I can solve a multi-step problem that requires converting units before using a rate. · 6.RP.A.3d

REMEMBER

- Start with the amount you are given. Change it to the unit the **next step** needs. Then use the **rate**.
- Write the **unit** after every answer: lb, then kg, then mg, then mL.
- For area, multiply length × width, then divide by what one bag or can covers. Round **up** for whole items.

WORKED EXAMPLE

A cat weighs 11 lb. The dose is 3 mg per kg. The syrup has 5 mg per mL. (1 kg ≈ 2.2 lb)

Step 1 11 ÷ 2.2 = 5 kg.

Step 2 5 kg × 3 mg per kg = 15 mg.

Step 3 15 mg ÷ 5 mg per mL = 3 mL.

Answer **3 mL of syrup**

WORDS **multi-step** *(de varios pasos)* · **dose** *(dosis)* · **per** *(por)*

PRACTICE

show your work · label units

1. **Luna the Cat.** Complete each step. (1 kg ≈ 2.2 lb)

a. 22 lb ≈ ____ kg

b. 10 kg × 6 mg per kg = ____ mg

c. 60 mg ÷ 12 mg per mL = ____ mL

d. 30 kg ≈ ____ lb

2. **Pony Medicine.** A pony weighs 176 lb. The medicine dose is 3 mg per kg of body weight. (1 kg ≈ 2.2 lb)

Hint *Change pounds to kilograms before you use the dose.*

a. Weight in kilograms: _____ kg

b. Total dose: _____ mg

Show your work.

3. **Elephant Calf.** A baby elephant weighs 120 kg. (1 kg ≈ 2.2 lb, 1 ton = 2,000 lb)

Hint *Multiply by 2.2, then subtract from 2,000.*

a. Weight in pounds: _____ lb

b. Pounds more to reach 1 ton: _____ lb

Show your work.

4. **Gas Tank.** A car's tank holds 76 L. Gas costs $3.80 per gallon. (1 gal ≈ 3.8 L)

a. Tank in gallons: _____ gal

b. Cost to fill: _____

Show your work.

5. **Butter.** A recipe calls for 196 grams of butter. About how many ounces is that? (1 oz ≈ 28 g)

Hint *An ounce is heavier than a gram, so divide.*

Show your work.

Answer_____ oz

6. **Dog Medicine.** A dog weighs 88 lb. The dose is 5 mg per kg. Find the dose. (1 kg ≈ 2.2 lb)

Hint *Kilograms first, then multiply by 5 mg.*

Show your work.

Answer_____ mg

7. **Travel Cost.** A trip is 300 km. A car uses 1 L of fuel every 12 km. Fuel costs $1.60 per liter.

Hint *Divide the distance by 12 km per liter.*

a. Liters used: _____ L

b. Fuel cost: _____

Show your work.

8. **Class Garden.** A garden bed is 8 ft by 9 ft. One bag of soil covers 8 square feet and costs $3.75.

a. Area of the bed: _____ ft^2

b. Bags needed: _____ bags

c. Total cost: _____

d. What changes if one bag covers 12 square feet? _____

FIND THE ERROR

explain the mistake, then fix it

9. **Priya's Work.** Priya converted a 55-lb goat to kilograms by multiplying: 55 × 2.2 = 121 kg. Explain why 121 kg is impossible. Then find the correct weight. (1 kg ≈ 2.2 lb)

TEST PRACTICE

choose the best answer

10. A 66-pound dog is about how many kilograms? (1 kg ≈ 2.2 lb)

A 145.2 **B** 30 **C** 68.2 **D** 63.8

11. At 4 mg per kg, a 15-kg animal needs —

A 60 mg **B** 19 mg **C** 3.75 mg **D** 11 mg

SELF-CHECK CODE *find your answer · copy its letter into that problem's box · spell a math word*

440 Z	10 W	200 T	1,736 I	$76.00 G	240 E	528 Q	$33.75 S	7 H	$288.80 X

#1a	#2b	#3b	#4b	#5	#6	#8c

CHECK YOURSELF	☐ I can do this on my own	☐ I need a little help	☐ I have a question about #___