Name_____ Date_____ Period_____

**LESSON 3-7 · SESSION 2 · PRACTICE · FORM A**

# 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. Max the Dog.** Complete each step. (1 kg ≈ 2.2 lb)

**a.** 33 lb ≈ ____ kg

**b.** 15 kg × 5 mg per kg = ____ mg

**c.** 75 mg ÷ 15 mg per mL = ____ mL

**d.** 25 kg ≈ ____ lb

**2. Pony Medicine.** A pony weighs 187 lb. The medicine dose is 2 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 110 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 57 L. Gas costs $3.50 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 280 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 66 lb. The dose is 4 mg per kg. Find the dose. (1 kg ≈ 2.2 lb)

**Hint** *Kilograms first, then multiply by 4 mg.*

*Show your work.*

**Answer**_____ mg

**7. Travel Cost.** A trip is 240 km. A car uses 1 L of fuel every 12 km. Fuel costs $1.80 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 6 ft by 9 ft. One bag of soil covers 6 square feet and costs $4.25.

**a.** Area of the bed: _____ ft²

**b.** Bags needed: _____ bags

**c.** Total cost: _____

**d.** What changes if one bag covers 9 square feet? _____

## FIND THE ERROR

*explain the mistake, then fix it*

**9. Marcus's Work.** Marcus converted a 44-lb dog to kilograms by multiplying: 44 × 2.2 = 96.8 kg. Explain why 96.8 kg is impossible. Then find the correct weight. (1 kg ≈ 2.2 lb)

_____

_____

_____

## TEST PRACTICE

*choose the best answer*

**10.** A 44-pound dog is about how many kilograms? (1 kg ≈ 2.2 lb)

**A** 96.8 **B** 46.2 **C** 41.8 **D** 20

**11.** At 5 mg per kg, a 12-kg animal needs —

**A** 2.4 mg **B** 60 mg **C** 17 mg **D** 7 mg

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

| 170<br>O | $38.25<br>S | $199.50<br>X | $52.50<br>A | 5<br>D | 1,758<br>S | 120<br>E | 10<br>G | 264<br>Z | 374<br>Q |
|---|---|---|---|---|---|---|---|---|---|

| #1c | #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 #___