

### RAPID PRACTICE 3-10 Identifying Metric Equivalents

Estimated completion time: 5 minutes Answers on page 000

Directions: Circle the correct metric equivalent for the amount presented:

- 1 Ordered: 0.2 g
  - 1. 0.002 mg
  - 2. 0.02 mg
- 2 Ordered: 400 mg
  - 1. 0.04 g
  - 2. 0.4 g
- 3 Ordered: 1.6 g
  - 1. 1600 mg
  - 2. 160 mg
- 4 Ordered: 5 mg
  - 1. 0.005 g
  - 2. 50 g
- 5 Ordered: 0.04 g
  - 1. 0.004 mg
  - 2. 0.04 mg
- 3. 200 mg
- 4. 2000 mg
- 3. 500 g
- 4. 5000 g
- 3. 40 g
- 4. 4000 g
- 3. 1.6 mg
- 4. 0.016 mg
- 3. 4 mg
- 4. 40 mg

**Red arrow alerts** call attention to critical math and patient safety concerns as well as issues related to practice.

### Micrograms

Units of micrograms are as follows:

$$1000 \text{ mcg} = 1 \text{ mg}$$

$$1,000,000 \text{ mcg} = 1 \text{ g}$$

Micrograms are among the commonest measurements in medications. Of the two, milligrams are used more frequently. In order to avoid errors, it is advisable to avoid using decimals and to select an equivalent that can be stated in whole numbers.

Micrograms are very small units. Microgram and milligram conversions are needed for intravenous calculations and occasionally for very small doses of powerful medications. Just as with milligrams and grams, it is helpful to examine the prefix to determine the equivalent units.

- To change micrograms to milligrams, divide micrograms by 1000.
- To change milligrams to micrograms, multiply milligrams by 1000.

### RAPID PRACTICE 3-11 Mental Math: Micrograms to Milligrams, Milligrams to Micrograms, and Micrograms to Grams

Estimated completion time: 10 minutes Answers on page 000

Directions: Fill in the equivalent metric measure in the spaces provided by moving decimal points.

MICROGRAMS TO MILLIGRAMS		MILLIGRAMS TO MICROGRAMS		MICROGRAMS TO GRAMS	
mcg	mg	mg	mcg	mcg	g
5000	_____	2	_____	_____	0.001
300	_____	0.5	_____	500,000	_____
1500	_____	1.8	_____	_____	0.0002
20,000	_____	0.15	_____	10,000	_____
2500	_____	0.6	_____	_____	0.03

#### Cultural Note

In some countries, such as the United States, a comma is used to separate groups of three numbers within large numbers, as in 20,000. In other countries, a space is used. Thus, 25,000 or 25 000 might be seen. In the past, the British used a comma to designate a decimal point between a whole number and a fraction: 5,5 would be read as 5.5. ("5 point 5" or "5 and 5 tenths"). This type of notation can still be seen in scientific math.

- Write numbers, commas, and decimals neatly and use the custom of the country where you work.