

Math: mathematics and nurses

[Science](#), [Mathematics](#)



Math and Nursing

My field of study is nursing. Nurses play a vital role in helping doctors care for patients in a variety of settings. In the field of nursing, mathematics is a crucial part of caregiving. Nurses have to use a variety of math concepts on their job every day. Nurses must have a great knowledge of math to ensure that patients get the correct amount of medication, food, and proper care.

The role a nurse plays in healthcare is vital and there is no room for mistakes when it comes to knowing and using math skills. It could be the difference between life and death. Nurses have to be familiar with statistics when needing to know the side effects of medications and to counsel patients when giving a diagnosis. It is helpful to know the statistics of diseases and what a person's outcome may be. On a daily basis, nurses use algebra when reading charts, calculating medication doses, and reading lab results. The metric system is most commonly used in the field of nursing. Nurses must be able to convert the metric system to Imperial and U. S. measurements.

(Glydon, 2012). A nurse must be able to translate a doctor's orders given in g, mcg, kg, or min. He or she also must calculate these measurements into milligrams per hour to dispense. These measurements are used to test blood, urine, take vital signs, and record intake and output of fluids.

For example Dilantin, 0.1 g, is ordered to be given through a tube. Dilantin is available as 30 mg / 5 mL. How much would I, the nurse, give the patient? Using this formula below for calculating volume, I found that I would give the patient 16.7 mL.

Ordered	Have	x Volume	Y (Liquid)
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	30 mg	x 5 mL	16.7 mL

I would need to convert 0.1 g to mg $0.1 \text{ g} \times 1,000 = 100 \text{ mg}$ 100 mg

30 mg	x 5 mL	16.7 mL
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Nurses use drug calculations when they already know the strength of the medication that the patient needs.

Example: If the doctor orders 975 mg of Tylenol and I have 325 mg tablets, how many will I give the patient? I know that 325 mg = 1 tablet, and I need 975 mg in an unknown number of tablets. I would use an algebra formula such as this one to find how many tablets I would give the patient. 325 mg: 1 tab = 975 mg:

- $x \text{ tab} \times 325 \text{ mg} = 975 \text{ mg}$
- $x \text{ tab} = \frac{975 \text{ mg}}{325 \text{ mg}}$
- 975 mg
- $3 \times 325 = 975$ $x = 3$

I would give the patient 3 tablets. (How to calculate, 2002). In conclusion, the role that math plays in the field of nursing is crucial. Without knowing specific types of math, nurses would not be able to perform essential roles in helping doctors care for patients. Memorizing and using these formulas, equations, and conversions are vital in providing the most responsible healthcare possible.

References

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