Medical Math

Date	March 1, 2024	Orientation Time	8:00 a.m. (CLOSED to instructors)
Location	Delaware Area Career Center 4565 Columbus Pike Delaware, OH 43035	Contest Time	Immediately following orientation (CLOSED contest)
Scope of Contest	- Competitors will demonstrate their ability to solve math problems that deal with the following areas: - Measurements including vital signs, temperature conversions, and height and weight. - Metric and household measurements - Conversions - Ratio and proportion - Percentage - Intake and output - Roman numerals - Dosage calculations - The test will comprise 100 or more problems that will evaluate competitors on their problem-solving skills as well as their mathematical ability. - The competitors will have two and a half hours (150 minutes) to complete the test. No bonus points will be given for early completion of the test, and no competitor will be allowed to go in or out of the testing site during the testing. - All the items listed in the appendix on the bottom of this page are suggested references. The test items are not limited to this material. This is just a basic reference of things that may be required knowledge for the competition. **They are to be used as a reference *prior to the competition*, but are NOT allowed in the competition area.**		
Testing	Yes		
Eligibility	1 contestant for every 500 paid members		
Clothing	- School Uniform appropriate to contest: Professional attire worn in the classroom such as a criminal justice uniform, chef attire, health scrubs or cosmetology scrubs with all identifiers covered. This includes shoes. - NO jeans or athletic shoes. **School logo, contestant name or other identifiers on the shirt must be covered.** **OR** - SkillsUSA Official Dress		
Provided by Contestant	Professional Resumé – Typed Hardcopy Emergency Medical Form (Contestants must have this to compete) No. 2 pencils and eraser Basic hand-held calculator (no graphing or scientific calculators); with fraction keys will be permitted		
Contest Skilled Performance Standards	The test questions will be taken from problems encountered in the medical field and are selected from the area that might be used in real world applications		

Appendix

Term	Abbreviation
millimeter	mm
centimeter	cm
meter	m
foot/feet	ft
inch	in
gram	G
milligram	mg

Term	Abbreviation
microgram	mcg
kilogram	kg
pound	lb
ounce	oz
degrees Fahrenheit	°F
degrees Celsius (Centigrade)	°C
cubic centimeter	cc
milliliter	ml or mL
liter	L
unit	U
pint	pt
quart	qt
gallon	gal
tablespoon	tbsp
teaspoon	tsp
drop or drops	gtt or gtts
minim	minim
dram	dr
milliequivalent	mEq
grain	gr
intravenous	IV
tablet	tab
capsule	cap
suspension	susp
intake and output	I & O

CONVERSION CHART

Length

1 meter = 100 centimeters = 1,000 millimeters

10 millimeters = 1 centimeter

Weight

1 gram = 1,000 milligrams

1 milligram = 1,000 micrograms

1 kilogram = 1,000 grams

1 grain = 60 milligrams

Volume for Solids

1,000 cubic millimeters = 1 cubic centimeter

1,000 cubic centimeters = 1 cubic decimeter

1,000 cubic decimeters = 1 cubic meter

Volume for Fluids

1 liter = 1,000 milliliters

1 milliliter = 1 cubic centimeter

10 centiliters = 1 deciliter

10 deciliters = 1 liter

Weight Conversion

1 kilogram = 2.2 pounds

1 pound = 16 ounces

1 ounce = 0.028 kilograms

Temperature Conversion

°C = (°F-32) 5/9 or 0.5556

°F = (°C) 9/5 or 1.8 + 32

Metric/Household Equivalents
(Note: 1 cc = 1 mL)

1 cc or 1 mL	15 gtts (drops)
0.914 meters	3 feet (1 yard)
0.3048 meters	12 inches (1 foot)
2.54 centimeters	1 inch
5 mL or cc	1 tsp (teaspoon)
15 mL or cc	1 tbsp (tablespoon)
30 mL or cc	1 oz. (ounce)
240 mL or cc	1 cup (8 oz.)
480 mL or cc	1 pt (pint) (16 ounces)
960 mL or cc	1 qt (quart) (32 ounces)
1 meter	39.37 inches (3.281 feet)