

LPN Math Workshop - Metrics

Grams, liters, or any other base unit of the metric system can replace the meters in the following chart. Regardless of which of these units we use, the procedure will be the same. For the purpose of explanation, I have used the meter.

kilometer	hectometer	dekameter	meter	decimeter	centimeter	millimeter
km	hm	dam	m	dm	cm	mm
1,000 m	100m	10m	1m	0.1 m	0.01m	0.001m

The table tells us that 1 hectometer = 100 meters and 1 millimeter = .001 meter. The millimeter is the smallest unit in the table. A centimeter is 10 times larger a millimeter, a decimeter is 10 times large {than a centimeter, a meter is 10 times larger than a decimeter, etc. Since each unit is 10 times larger than the unit on its right, converting from one unit to another is simply a matter of multiplying or dividing by 10.

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|----------------------|---------------------------|
| 1) 712 m = _____ km | 2) 320 m = 0.323 _____ |
| 3) 6.2 km = _____ m | 4) 3,725 mm = 37.25 _____ |
| 5) 85 cm = _____ mm | 6) 8.71 hm = 8,710 _____ |
| 7) 35 cm = _____ m | 8) 4,975 cm = 4.975 _____ |
| 9) 25 m = _____ km | 10) 18 dm = 1.8 _____ |
| 11) 4.8 m = _____ cm | 12) 2,500 _____ = 2.5 km |

- 13) A medication is provided in container quantities of 50 mL. How many times can a 15 mL syringe be filled from this single container?
- 14) Liquid medication is administered to a patient every four hours.
- a) If the dose is 15 mL, how many milliliters are administered in 24 hours?
 - b) If the dose is 5 mL, how many milliliters are administered in 16 hours?
- 15) A one-liter graduated cylinder contains 942 mL of distilled water. A total of 127 mL is removed. What is the amount remaining in the cylinder?
- 16) Brand A of gauze is found to cost \$12.60 per 15-meter roll.
Brand B comes in 25-meter rolls costing \$23.90 each.
- a) Find the cost per meter of Brand A.
 - b) Find the cost per meter of Brand B.
 - c) Which is the better buy?

Metrics Answer Key:

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|-----|---------|-----|---------------|
| 1) | .712 km | 2) | km |
| 3) | 6200 m | 4) | dm |
| 5) | 850 mm | 6) | dm |
| 7) | .35 | 8) | dam |
| 9) | .025 km | 10) | m |
| 11) | 480 cm | 12) | m |
| 13) | 3 times | 14) | a) 90 mL |
| | | | b) 20mL |
| 15) | 815 mL | 16) | a) 0.84 per m |
| | | | b) 0.96 per m |
| | | | c) Brand A |