

Derived Units

Directions Write the correct term on the line.

- Density is found by dividing _____ by volume.
- When you multiply or _____ measurements, you make a derived unit.
- Density, area, and _____ are all derived units.
- The SI unit for area is _____.

Directions Write the letter of the answer to each question on the line.

- _____ 5. If you cut an object in half, what happens to its density?
A It doubles. **C** It stays the same.
B It decreases by half. **D** It triples.
- _____ 6. If a substance has a volume of 10 L and a mass of 5 kg, what is its density?
A 2 kg/L **B** .50 kg/L **C** 0.5 kg/L **D** 5 kg/L
- _____ 7. If density is mass divided by volume, what is mass?
A $M = \frac{D}{V}$ **B** $M = D \times V$ **C** $M = D - V$ **D** $M = \frac{V}{D}$
- _____ 8. Which of the following measurements has a derived unit?
A 7.0 m² **B** 7.0 kL **C** 0.97 dm **D** 0.97g/cm³
- _____ 9. If you are given mass in grams and volume in milliliters, what will the unit of density be?
A g × mL **B** cm³ **C** g/L **D** g/mL

Directions Write the answer to each problem. Use the correct number of significant figures.

10. If an object has a mass of 23.1 g and a volume of 150 mL, what is its density? _____
11. What is the density of an object with a mass of 230 kg and a volume of 3,004 L? _____
12. What is the mass of an object with a density of 3.4 g/mL and a volume of 500.0 mL? _____
13. If an object has a mass of 3.0 g and a density of 0.023 g/mL, what is its volume? _____
14. If a substance has a density of 0.23 g/mL, what is the mass of a 24-L sample? _____
15. A 10.0-g object with a density of 1.5 g/mL is cut in half. What is the volume of half of the object? _____