

**KEY - SIG.FIG., SCIENTIFIC NOTATION, AND DENSITY
PRACTICE #6**

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|------|-------|
| 1) 2 | 7) 3 |
| 2) 4 | 8) 5 |
| 3) 4 | 9) 3 |
| 4) 3 | 10) 2 |
| 5) 1 | 11) 5 |
| 6) 4 | 12) 1 |

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|-----------------------------|-------------------------------|
| 13) 3.9 (4.0 OK) | 20) 4.059×10^2 |
| 14) 12,000 | 21) 2.468101214×10^3 |
| 15) 6800 | 22) 1.0000×10^{-3} |
| 16) 110 | 23) 0.0030 |
| 17) 0.00049 | 24) 6,871,000 |
| 18) 120 | 25) 0.9145500 |
| 19) 3.6920×10^{-5} | 26) 7,440,000,000 |

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|-------------------|--------|--------------------------|
| 27) (390.99) | 391.0 | 33) 2.1 g/cm^3 |
| 28) (1.924 423 1) | 1.9 | 34) 960 mL |
| 29) (2.900 9) | 2.9 | 35) 7.2 kg/L |
| 30) (349.02) | 350 | 36) 1 065 g |
| 31) (158.723 3) | 158.72 | 37) 48.3 cm^3 |
| 32) 48.0 g | | 38) 3.1 g/mL |

Density calculations...

32) $M = DV$ $M = \frac{3.20 \text{ g}}{\text{mL}} \times 15.0 \text{ mL} = \boxed{48.0 \text{ g}}$

33) $D = \frac{M}{V}$ V given as $(8.0 \times 6.0 \times 5.0) \text{ cm}^3 = 240 \text{ cm}^3$ $D = \frac{500.00 \text{ g}}{240 \text{ cm}^3} = \boxed{2.1 \text{ g/cm}^3}$

34) $V = \frac{M}{D}$ $V = \frac{750.00 \text{ g}}{0.78 \text{ g/mL}} = \boxed{960 \text{ mL}}$

35) $D = \frac{M}{V}$ $D = \frac{18 \text{ kg}}{2.5 \text{ L}} = \boxed{7.20 \text{ kg/L}}$

36) $M = DV$ $M = 4.259 \frac{\text{g}}{\text{cm}^3} \times 250.00 \text{ cm}^3 = \boxed{1,065 \text{ g}}$

37) $V = \frac{M}{D}$ $V = \frac{125.66 \text{ g}}{2.60 \text{ g/cm}^3} = \boxed{48.3 \text{ cm}^3}$

38) $D = \frac{M}{V}$ V change: $(45-20) \text{ mL} = 25 \text{ mL}$ $D = \frac{78.51 \text{ g}}{25 \text{ mL}} = 3.1 \text{ g/mL}$

V

25 mL