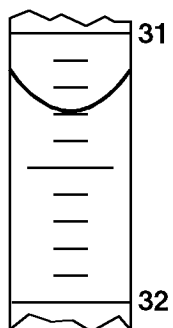


- ___ 11) The diagram below shows a portion of a buret. What is the reading of the meniscus?

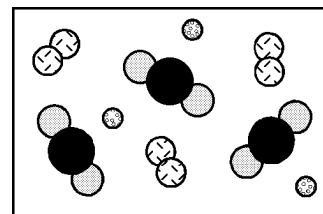


- 1) 31.72 ml
 2) 32.28 ml
 3) 32.72 ml
 4) 31.28 ml
- ___ 12) The list below shows four samples: A, B, C, and D.
- (A) HCl(aq)
 (B) NaCl(aq)
 (C) HCl(g)
 (D) NaCl(s)

Which samples are substances?

- 1) A and B
 2) C and D
 3) C and B
 4) A and C
- ___ 13) Which measurement contains three significant figures?
- 1) 0.0563 g
 2) 0.05 g
 3) 0.050 g
 4) 0.056 g

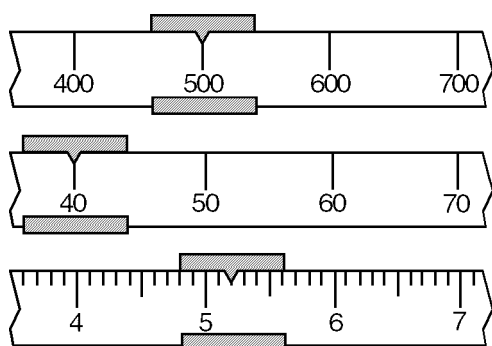
- ___ 14) The particle diagram below represents a sample of matter.



Which *best* describes the composition of the sample?

- 1) a mixture of compounds
 2) a mixture of elements and compounds
 3) a single compound
 4) a mixture of elements
- ___ 15) Which of the following is an example of a compound?
- 1) Na
 2) Ar
 3) O₂
 4) CO₂
- ___ 16) Which substance can *not* be decomposed by a chemical change?
- 1) carbon monoxide (CO)
 2) carbon dioxide (CO₂)
 3) methane (CH₄)
 4) carbon (C)
- ___ 17) Which is a formula of a binary compound?
- 1) BiPO₄
 2) BaSO₄
 3) Mg(ClO)₂
 4) MgCl₂
- ___ 18) Which measurement contains a total of three significant figures?
- 1) 1,205 g
 2) 12,050 g
 3) 0.125 g
 4) 0.012 g

- ___ 19) The diagram below represents a portion of a triple-beam balance.



If the beams are in balance with the riders in the positions shown, what is the total mass of the object?

- 1) 545.20 g
 2) 540.52 g
 3) 540.20 g
 4) 545.52 g
- ___ 20) Burning is an example of a change that is
- 1) chemical
 2) physical
 3) intensive
 4) endothermic
- ___ 21) Expressed to the correct number of significant figures, what is the correct sum of $(3.04 \text{ g} + 4.134 \text{ g} + 6.1 \text{ g})$?
- 1) 13.274 g
 2) 13.27 g
 3) 13.3 g
 4) 13 g
- ___ 22) Which of the following is a chemical property of copper?
- 1) It is a good conductor of heat and electricity.
 2) It reacts in moist air to produce green copper carbonate.
 3) It has a shiny metallic luster.
 4) It melts when heated to 1083°C .

- ___ 23) Given: $(52.6 \text{ cm})(1.214 \text{ cm})$

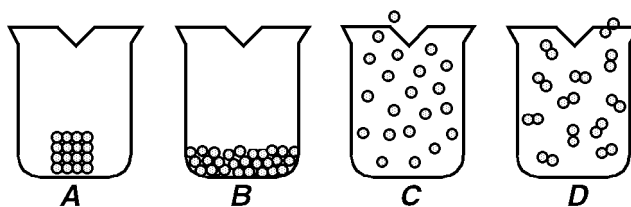
What is the product expressed to the correct number of significant figures?

- 1) 63.86 cm^2
 2) 63.9 cm^2
 3) 64 cm^2
 4) 63.8564 cm^2
- ___ 24) Which of the following can *not* be decomposed into simpler substances?
- 1) mixtures
 2) compounds
 3) solutions
 4) elements
- ___ 25) What is the number 8.90×10^{-4} expressed in conventional form with the correct number of significant digits?
- 1) 89,000.
 2) 0.00089
 3) 89,000
 4) 0.000890
- ___ 26) Which of the following is a chemical property of water?
- 1) it boils
 2) it decomposes into H_2 and O_2
 3) it evaporates
 4) it freezes
- ___ 27) The particles in a crystalline solid are arranged
- 1) randomly and close together
 2) regularly and far apart
 3) regularly and close together
 4) randomly and far apart
- ___ 28) The mass of a solid is 3.60 grams and its volume is 1.8 cubic centimeters. What is the density of the solid, expressed to the correct number of significant figures?
- 1) 2.0 g/cm^3
 2) 0.5 g/cm^3
 3) 2 g/cm^3
 4) 0.50 g/cm^3

- ___ 29) The length of a block of metal is 5.5 cm, its width is 1.25 cm, and its height is 8.75 cm. What is the volume of the block expressed to the correct number of significant figures?

- 1) 60.16 cm³
- 2) 60.2 cm³
- 3) 60. cm³
- 4) 60 cm³

- ___ 30) The particle diagrams below represent elements at STP.



Which particle diagram *best* represents a substance in the solid state?

- 1) A
- 2) B
- 3) C
- 4) D