Exam

Name_____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

1) Water, H_2O, is an example of a(n)   1) _____
    A) wave.
    B) chemical.
    C) electric charge.
    D) type of energy.
    E) element.

Answer: B
Explanation: A)
                B)
                C)
                D)
                E)

2) In this list, which substance can be classified as a chemical?   2) _____
    A) temperature
    B) cold
    C) heat
    D) salt
    E) sleep

Answer: D
Explanation: A)
                B)
                C)
                D)
                E)

3) One example of a chemical used in toothpaste is
    A) chlorine.
    B) sugar.
    C) carbon dioxide.
    D) calcium carbonate.
    E) sulfur.

Answer: D

Explanation: A)
                B)
                C)
                D)
                E)

4) Which of the following is NOT a chemical?
    A) salt
    B) sugar
    C) carbon dioxide
    D) water
    E) light

Answer: E

Explanation: A)
                B)
                C)
                D)
                E)

5) Sodium fluorophosphate is a chemical used in toothpaste to
    A) strengthen tooth enamel.
    B) keep the paste from spoiling.
    C) disinfect the toothbrush.
    D) remove plaque.
    E) make the paste white.

Answer: A

Explanation: A)
                B)
                C)
                D)
                E)

3) _____

4) _____

5) _____

6) Titanium dioxide is a chemical used in toothpaste to

    A) remove plaque.

    B) make the toothpaste white.

    C) disinfect the toothbrush.

    D) strengthen tooth enamel.

    E) keep the paste from spoiling.

Answer: B

Explanation: A)

                    B)

                    C)

                    D)

                    E)

ID: chem6tl 1.1-6

6) _____

7) When a part of the body is injured, substances called _____ are released.

    A) nitrogen oxides

    B) chlorofluorocarbons

    C) prostaglandins

    D) aspirins

    E) pain relievers

Answer: C

Explanation: A)

                    B)

                    C)

                    D)

                    E)

ID: chem6tl 1.1-7

7) _____

8) Which of the following is a chemical?

    A) light   B) heat   C) noise   D) sugar   E) sound

Answer: D

Explanation: A)

                    B)

                    C)

                    D)

                    E)

ID: chem6tl 1.1-8

8) _____

9) You notice that there is more traffic between 8:00 and 9:00 AM. This would be a(n) 9) _____
   A) experiment.   B) conclusion/theory.
   C) hypothesis.   D) observation.

Answer: D
Explanation: A)
                B)
                C)
                D)
ID: chem6tl 1.1-9

10) There is more traffic between 8:00 and 9:00 AM because most people start work at 9:00 AM. This   10) _____
    would be a(n)
    A) conclusion/theory.   B) hypothesis.
    C) observation.   D) experiment.

Answer: B
Explanation: A)
                B)
                C)
                D)
ID: chem6tl 1.1-10

11) In order to enhance your learning in chemistry, you should NOT   11) _____
    A) be an active learner.
    B) go to professor's office hours.
    C) form a study group.
    D) wait until the night before the exam to study.
    E) study a little every day.

Answer: D
Explanation: A)
                B)
                C)
                D)
                E)
ID: chem6tl 1.1-11

12) Which of the following would NOT be part of a study plan to learn chemistry?   12) _____

    A) skip your professor's office hours
    B) work the sample problems
    C) form a study group
    D) read the chapter before class
    E) study a little every day

Answer: A

Explanation: A)
                  B)
                  C)
                  D)
                  E)

13) In the number 12.345, the 4 is in the _____ place.   13) _____

    A) tens
    B) ones
    C) tenths
    D) hundredths
    E) thousandths

Answer: D

Explanation: A)
                  B)
                  C)
                  D)
                  E)

14) In the number 12.345, the 1 is in the _____ place.   14) _____

    A) tens
    B) ones
    C) tenths
    D) hundredths
    E) thousandths

Answer: A

Explanation: A)
                  B)
                  C)
                  D)
                  E)

15) In the number 12.345, the 3 is in the _____ place.　　　　　　　　　　　　　15) _____
    A) tens
    B) ones
    C) tenths
    D) hundredths
    E) thousandths

Answer: C
Explanation: A)
               B)
               C)
               D)
               E)
ID: chem6tl 1.1-15

16) The product of $(-4) \times (-5)$ is　　　　　　　　　　　　　16) _____
    A) 0　　　　　　B) -20　　　　　　C) -1　　　　　　D) .1　　　　　　E) .20

Answer: E
Explanation: A)
               B)
               C)
               D)
               E)
ID: chem6tl 1.1-16

17) For the equation $4x + 2 = 10$, x equals　　　　　　　　　　　　　17) _____
    A) 2　　　　　　B) -2　　　　　　C) 12　　　　　　D) 8　　　　　　E) 3

Answer: A
Explanation: A)
               B)
               C)
               D)
               E)
ID: chem6tl 1.1-17

18) For the equation $6y - 20 = -2$, y equals　　　　　　　　　　　　　18) _____
    A) 4　　　　　　B) 3　　　　　　C) 2　　　　　　D) -3　　　　　　E) -2

Answer: B
Explanation: A)
               B)
               C)
               D)
               E)
ID: chem6tl 1.1-18

19) For the equation : -10 - (-4) =
    A) -14   B) 6   C) -6   D) 4   E) 14

Answer: C

Explanation: A)
                      B)
                      C)
                      D)
                      E)
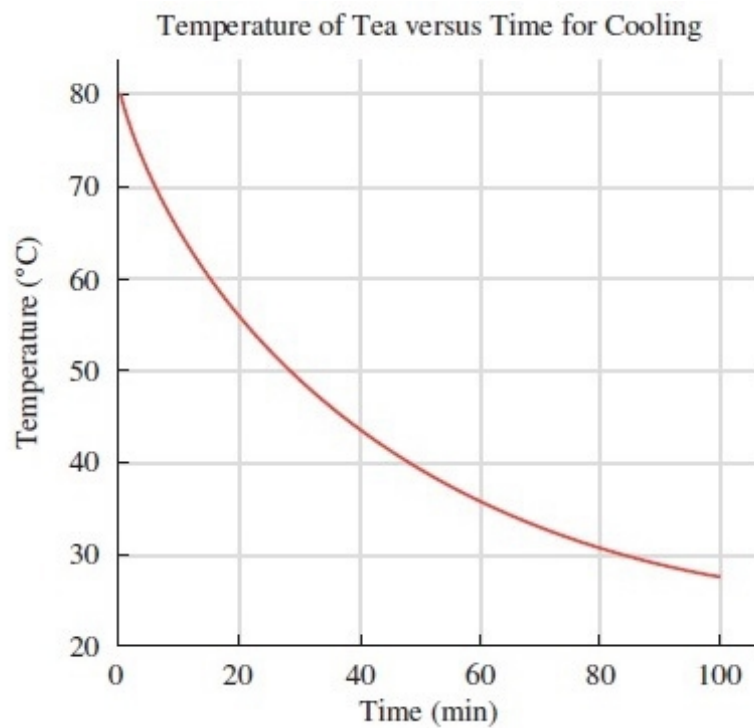
ID: chem6tl 1.1-19

20) 12 is what percentage of 36?
    A) 33%   B) 30%   C) 12%   D) 3%   E) 330%

Answer: A

Explanation: A)
                      B)
                      C)
                      D)
                      E)

ID: chem6tl 1.1-20

21) 16 is what percentage of 80?
    A) 2%   B) 20%   C) 50%   D) 5%   E) 200%

Answer: B

Explanation: A)
                      B)
                      C)
                      D)
                      E)

ID: chem6tl 1.1-21

22) On the graph, what is the temperature after 40 minutes?   22) _____

Temperature of Tea versus Time for Cooling

A) 44 °C   B) 36 °C   C) 40 °C   D) 57 °C   E) 26 °C
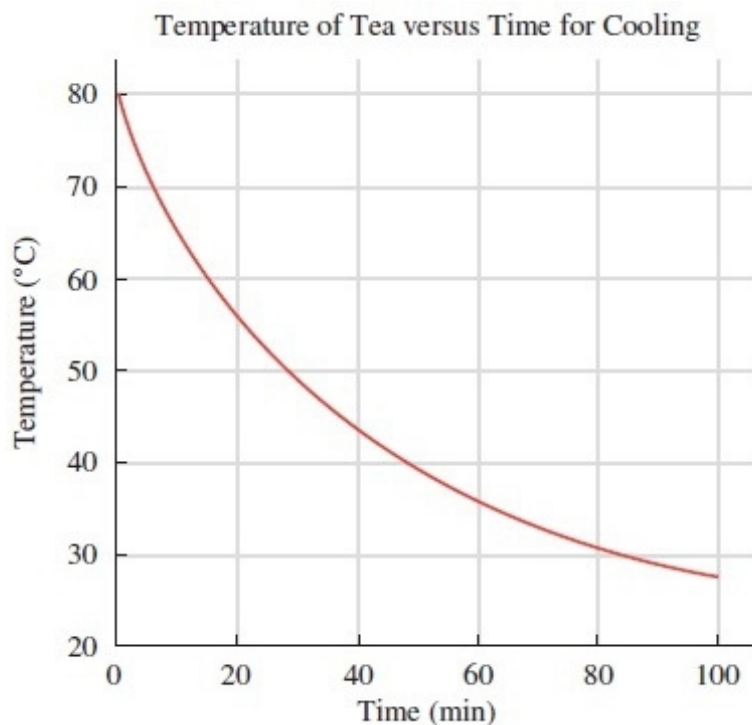
Answer: A

Explanation: A)
                B)
                C)
                D)
                E)

ID: chem6tl 1.1-22

23) On the graph, how long does it take to cool to from 80 °C go 45 °C?   23) _____

Temperature of Tea versus Time for Cooling

A) 60 min   B) 42 min   C) 75 min   D) 25 min   E) 35 min

Answer: B

Explanation: A)
                B)
                C)
                D)
                E)

24) Written in scientific notation, 540 000 is   24) _____

    A) 5.4.

    B) 54×10^8.

    C) 5.4×10^{-5}.

    D) 0.54×10^6.

    E) 5.4×10^5.

Answer: E

Explanation: A)
                B)
                C)
                D)
                E)

25) Written in scientific notation, 8300 is

    A) 8.3×10^2.

    B) 8.3×10^{-2}.

    C) 8.3×10^4.

    D) 8.3×10^{-3}.

    E) 8.3×10^3.

Answer: E

Explanation: A)

                    B)

                    C)

                    D)

                    E)

25) _____

26) Written in scientific notation, 0.000 000 33 is

    A) 3.3×10^{-7}.

    B) 3.3.

    C) 3.3×10^7.

    D) 3.3×10^8.

    E) 3.3×10^{-8}.

Answer: A

Explanation: A)

                    B)

                    C)

                    D)

                    E)

26) _____

27) Written in scientific notation, 0.000 004 03 is

    A) 4.03.

    B) 4.03×10^6.

    C) 0.403×10^{-5}.

    D) 4.03×10^{-7}.

    E) 4.03×10^{-6}.

Answer: E

Explanation: A)

                    B)

                    C)

                    D)

                    E)

27) _____

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

28) A substance that always has the same composition and properties is called a(n) _____.   28) _____

Answer: chemical
Explanation:
ID: chem6tl 1.2-1

29) Any material used in or produced by a chemical reaction is a(n) _____.   29) _____

Answer: chemical
Explanation:
ID: chem6tl 1.2-2

30) An abrasive used in toothpaste is _____.   30) _____

Answer: calcium carbonate
Explanation:
ID: chem6tl 1.2-3

31) The substances released when tissues are injured are _____.   31) _____

Answer: prostaglandins
Explanation:
ID: chem6tl 1.2-4

32) The chemical used to make cans and foil is _____.   32) _____

Answer: aluminum
Explanation:
ID: chem6tl 1.2-5

33) The first step in the scientific method is to _____.   33) _____

Answer: make observations
Explanation:
ID: chem6tl 1.2-6

34) The second step in the scientific method is to _____.   34) _____

Answer: form a hypothesis
Explanation:
ID: chem6tl 1.2-7

35) In the number 45.678, the digit 6 is in the _____ place.   35) _____

Answer: tenths
Explanation:
ID: chem6tl 1.2-8

36) 40 students complete the first semester chemistry course. If 32 students take the second   36) _____
semester class, ____% are taking this class.

Answer: 80
Explanation:

37) Express using scientific notation: 351 000 000 000   37) _____

Answer: 3.51×10^{11}
Explanation:

38) Express using scientific notation: 0.000 860   38) _____

Answer: 8.60×10^{-4}
Explanation:

39) Express using scientific notation: 5 207 000   39) _____

Answer: 5.207×10^{6}
Explanation:

40) Express using scientific notation: 0.000 000 050   40) _____

Answer: 5.0×10^{-8}
Explanation:

TRUE/FALSE. Write 'T' if the statement is true and 'F' if the statement is false.

41) Titanium dioxide in toothpaste is used as a detergent.   41) _____

Answer: True   ✔ False
Explanation:

42) Calcium carbonate is used to sweeten toothpaste.   42) _____

Answer: True   ✔ False
Explanation:

43) Paracelsus was a Greek philosopher.   43) _____

Answer: True   ✔ False
Explanation:

44) The first step in the scientific method is to draw a conclusion.   44) _____

Answer: True   ● False
Explanation:

45) Doing experiments to test your hypothesis is part of the scientific method.   45) _____

Answer: ● True   False
Explanation:

46) If one experiment is successful, your hypothesis becomes a scientific theory.   46) _____

Answer: True   ● False
Explanation:

47) Working with a group of students can help you learn chemistry.   47) _____

Answer: ● True   False
Explanation:

48) Keeping a problem notebook will help you do well in your chemistry class.   48) _____

Answer: ● True   False
Explanation:

49) It is a good idea to wait until the night before an exam to start to study.   49) _____

Answer: True   ● False
Explanation:

50) You should always look at the given answer to a problem before you attempt to solve the   50) _____
    problem.

Answer: True   ● False
Explanation:

51) In the number 123.45, the digit 5 is in the hundreds place.   51) _____

Answer: True   ● False
Explanation:

52) In the number 123.45, the digit 3 is in the ones place.   52) _____

    Answer: ● True   False

    Explanation:

ID: chem6tl 1.3-12

53) When -7 is added to -5 the answer is 12.   53) _____

    Answer: True   ● False

    Explanation:

ID: chem6tl 1.3-13

54) If a negative number is divided by another negative number, the answer will be a positive   54) _____
number.

    Answer: ● True   False

    Explanation:

ID: chem6tl 1.3-14

55) If -2x = 8, x is equal to 4.   55) _____

    Answer: True   ● False

    Explanation:

ID: chem6tl 1.3-15

56) If 12 students in a class of 36 students got an "A" grade on the exam, 33% of the students earned   56) _____
an "A".

    Answer: ● True   False

    Explanation:

ID: chem6tl 1.3-16

57) 3.5×10^3 is equal to 3500.   57) _____

    Answer: ● True   False

    Explanation:

ID: chem6tl 1.3-17

58) 2.25×10^{-4} is equal to 22500.   58) _____

    Answer: True   ● False

    Explanation:

ID: chem6tl 1.3-18

1) B
Diff: 0

2) D
Diff: 0

3) D
Diff: 0

4) E
Diff: 0

5) A
Diff: 0

6) B
Diff: 0

7) C
Diff: 0

8) D
Diff: 0

9) D
Diff: 0

10) B
Diff: 0

11) D
Diff: 0

12) A
Diff: 0

13) D
Diff: 0

14) A
Diff: 0

15) C
Diff: 0

16) E
Diff: 0

17) A
Diff: 0

18) B
Diff: 0

19) C
Diff: 0

20) A
Diff: 0

21) B
Diff: 0

22) A
Diff: 0

23) B
Diff: 0

24) E
Diff: 0

25) E
Diff: 0

26) A
Diff: 0

27) E
Diff: 0

28) chemical
Diff: 0

29) chemical
Diff: 0

30) calcium carbonate
Diff: 0

31) prostaglandins
Diff: 0

32) aluminum
Diff: 0

33) make observations
Diff: 0

34) form a hypothesis
Diff: 0

35) tenths
Diff: 0

36) 80
Diff: 0

37) 3.51×10^{11}
Diff: 0

38) 8.60×10^{-4}
Diff: 0

39) 5.207×10^{6}
Diff: 0

40) 5.0×10^{-8}
Diff: 0

41) FALSE
Diff: 0

42) FALSE
Diff: 0

43) FALSE
   Diff: 0
44) FALSE
   Diff: 0
45) TRUE
   Diff: 0
46) FALSE
   Diff: 0
47) TRUE
   Diff: 0
48) TRUE
   Diff: 0
49) FALSE
   Diff: 0
50) FALSE
   Diff: 0
51) FALSE
   Diff: 0
52) TRUE
   Diff: 0
53) FALSE
   Diff: 0
54) TRUE
   Diff: 0
55) FALSE
   Diff: 0
56) TRUE
   Diff: 0
57) TRUE
   Diff: 0
58) FALSE
   Diff: 0