

Unit 7 Practice Test

Matching

Match each item with the correct statement below.

- | | |
|-------------------|-------------------------|
| a. positron | d. transuranium element |
| b. alpha particle | e. gamma radiation |
| c. beta particle | f. transmutation |

- ___ 1. particle of charge +1 and mass equal to that of an electron
- ___ 2. high-energy photons emitted by a radioisotope
- ___ 3. emitted electron from decomposed neutron
- ___ 4. emitted helium nucleus

Match each item with the correct statement below.

- | | |
|----------------------|----------------------|
| a. activated complex | d. activation energy |
| b. reaction rate | e. free energy |
| c. inhibitor | |

- ___ 5. the minimum energy colliding particles must have in order to react
- ___ 6. the number of moles of a given compound that react in a given time to form products
- ___ 7. energy available to do work
- ___ 8. a substance that slows down the rate of a reaction

Match each item with the correct statement below.

- | | |
|------------|-----------------|
| a. fission | c. radioisotope |
| b. fusion | |

- ___ 9. combination of two nuclei to form a nucleus of greater mass
- ___ 10. splitting of nucleus into smaller fragments
- ___ 11. element with unstable nucleus

Match each item with the correct statement below.

- | | |
|---------------------|--------------------|
| a. oxidation number | c. oxidizing agent |
| b. half-reaction | d. reducing agent |

- ___ 12. substance that accepts/gains electrons
- ___ 13. substance that donates/loses electrons
- ___ 14. reaction showing either the reduction or the oxidation reaction
- ___ 15. the number of electrons transferred to/under an atom's control

Match each item with the correct statement below.

- | | |
|-----------------|-----------------|
| a. electrode | d. voltaic cell |
| b. electrolysis | e. dry cell |

c. salt bridge

- ___ 16. a voltaic cell in which the electrolyte is a paste
- ___ 17. a conductor in a circuit that carries electrons to or from a substance other than a metal
- ___ 18. a process in which electrical energy is used to bring about a chemical change
- ___ 19. an electrochemical cell that is used to convert chemical energy to electrical energy
- ___ 20. a tube containing a conducting solution

Match each item with the correct statement below.

- a. anode
b. battery
- c. cathode
d. half-cell

- ___ 21. the electrode at which oxidation occurs
- ___ 22. one part of a voltaic cell in which either oxidation or reduction occurs
- ___ 23. the electrode at which reduction occurs
- ___ 24. a group of cells that are connected together

Match each item with the correct statement below.

- a. spontaneous reaction
b. entropy
c. chemical equilibrium
- d. reaction mechanism
e. elementary reaction

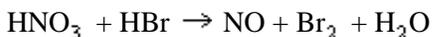
- ___ 25. the measure of disorder
- ___ 26. a reaction that releases free energy
- ___ 27. when the forward and reverse reactions take place at the same rate

Multiple Choice

Identify the choice that best completes the statement or answers the question.

- ___ 28. Why does a higher temperature cause a reaction to go faster?
- a. There are more collisions per second and the collisions are of greater energy.
b. There are more collisions per second only.
c. Collisions occur with greater energy only.
d. There are more collisions per second or the collisions are of greater energy.
- ___ 29. What particle is emitted in alpha radiation?
- a. electron
b. helium nucleus
- c. photon
d. hydrogen nucleus
- ___ 30. Which reaction results in the greatest increase in entropy?
- a. $3A \rightarrow B$
b. $A \rightarrow B$
- c. $2A \rightarrow B$
d. $A \rightarrow 2B$
- ___ 31. Why is oxygen reduced in the reaction of hydrogen with oxygen to make water?
- a. Oxygen absorbs a proton.

- b. Oxygen pulls electrons toward itself.
 - c. Oxygen pushes electrons toward the hydrogens.
 - d. Oxygen releases a proton.
- ___ 32. What happens to a reaction at equilibrium when more reactant is added to the system?
- a. The reaction makes more reactants.
 - b. The reaction makes more products.
 - c. The answer cannot be determined.
 - d. The reaction is unchanged.
- ___ 33. What is another name for an oxidation-reduction reaction?
- a. O-reaction
 - b. oxred reaction
 - c. R-reaction
 - d. redox reaction
- ___ 34. In a reaction (at equilibrium) that makes more moles of gas than it consumes, what is the effect of increasing the pressure?
- a. The answer cannot be determined.
 - b. The reaction makes more products.
 - c. The reaction is unchanged.
 - d. The reaction makes more reactants.
- ___ 35. Which one of the following systems has the highest entropy?
- a. All have the same entropy because all are water.
 - b. 10 mL of water at 10°C
 - c. 10 mL of water at 50°C
 - d. 10 mL of water at 100°C
- ___ 36. If an atom is reduced in a redox reaction, what must happen to another atom in the system?
- a. It must be neutralized.
 - b. It must be oxidized.
 - c. It must be reduced.
 - d. Nothing needs to happen to another atom in the system.
- ___ 37. The amount of disorder in a system is measured by its ____.
- a. equilibrium position
 - b. K_{eq}
 - c. entropy
 - d. activation energy
- ___ 38. Which metal is the most easily oxidized?
- a. highly active metal
 - b. slightly active metal
 - c. an inactive metal
 - d. moderately active metal
- ___ 39. Which of the following statements explains why the melting of ice is a spontaneous reaction at room temperature and pressure?
- a. Melting is accompanied by a decrease of energy.
 - b. Melting is accompanied by an increase of energy.
 - c. Melting is accompanied by an increase of entropy.
 - d. Melting is accompanied by a decrease of entropy.
- ___ 40. What is the change in atomic mass number when an atom emits an alpha particle?
- a. decreases by 2
 - b. decreases by 4
 - c. increases by 4
 - d. increases by 2
- ___ 41. Which physical state of nitrogen has the highest entropy?
- a. liquid
 - b. solid
 - c. gas
 - d. vapor
- ___ 42. In the following unbalanced reaction, which atom is oxidized?



- a. bromine
- b. hydrogen
- c. nitrogen
- d. oxygen

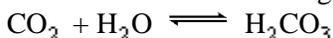
- ___ 43. What is the change in atomic number when an atom emits a beta particle?
- a. increases by 1
 - b. decreases by 2
 - c. increases by 2
 - d. decreases by 1
- ___ 44. Which element decreases its oxidation number in the following reaction?
- $$\text{I}_2 + 2\text{KCl} \rightarrow 2\text{KI} + \text{Cl}_2$$
- a. chlorine
 - b. iodine
 - c. No element decreases its oxidation number.
 - d. potassium
- ___ 45. An unstable nucleus ____.
- a. emits energy when it decays
 - b. increases its nuclear mass by fission
 - c. increases its half-life
 - d. expels all of its protons
- ___ 46. In an endothermic reaction at equilibrium, what is the effect of raising the temperature?
- a. The reaction makes more reactants.
 - b. The answer cannot be determined.
 - c. The reaction makes more products.
 - d. The reaction is unchanged.
- ___ 47. In the reaction of calcium with chlorine, which atom is oxidized?
- a. calcium
 - b. chlorine
 - c. both a and b
 - d. neither a nor b
- ___ 48. Which of the changes listed below would shift the following reaction to the right?
- $$4\text{HCl}(g) + \text{O}_2(g) \rightleftharpoons 2\text{Cl}_2(g) + 2\text{H}_2\text{O}(g)$$
- a. removal of O_2
 - b. decrease of pressure
 - c. increase of pressure
 - d. addition of Cl_2
- ___ 49. Nuclear fusion ____.
- a. takes place in the sun
 - b. is used in medicine
 - c. occurs at low temperatures
 - d. can be controlled in the laboratory
- ___ 50. If a system is left to change spontaneously, in what state will it end?
- a. the state with lowest possible energy
 - b. the same state in which it began
 - c. the state with the maximum disorder
 - d. the state with the lowest possible energy consistent with the state of maximum disorder
- ___ 51. If sulfur dioxide and oxygen can be made into sulfur trioxide, what is the reverse reaction?
- a. $2\text{SO}_3 \rightarrow 2\text{SO}_2 + \text{O}_2$
 - b. $\text{SO}_2 + 2\text{SO}_3 \rightarrow 3\text{S} + 4\text{O}_2$
 - c. $\text{SO}_3 + \text{O}_2 \rightarrow \text{SO}_5$
 - d. $2\text{SO}_2 + \text{O}_2 \rightarrow 2\text{SO}_3$
- ___ 52. Which element increases its oxidation number in the following reaction?
- $$2\text{Na} + 2\text{H}_2\text{O} \rightarrow 2\text{NaOH} + \text{H}_2$$
- a. oxygen
 - b. hydrogen
 - c. sodium

- d. No element increases its oxidation number.
- ___ 53. At equilibrium, what is the rate of production of reactants compared with the rate of production of products?
- higher
 - lower
 - much higher
 - the same
- ___ 54. In the reaction of sodium with oxygen, which atom is the reducing agent?
- oxygen
 - sodium
 - both a and b
 - neither a nor b
- ___ 55. Which metal ion is reduced by lead?
- calcium
 - cadmium
 - mercury
 - potassium
- ___ 56. What happens in a voltaic cell?
- Chemical energy is changed to electrical energy.
 - Electrical energy is changed to chemical energy.
 - Electrical energy is changed to magnetic energy.
 - Magnetic energy is changed to electrical energy.
- ___ 57. What is the reducing agent in the following reaction?
- $$2\text{Na} + 2\text{H}_2\text{O} \rightarrow 2\text{NaOH} + \text{H}_2$$
- H_2O
 - NaOH
 - Na
 - H_2
- ___ 58. Which of the following statements is true?
- All spontaneous processes release free energy.
 - Entropy always increases in a spontaneous process.
 - All spontaneous processes are exothermic.
 - All nonspontaneous processes are endothermic.
- ___ 59. The rate of a chemical reaction normally ____.
- increases as reactant concentration increases
 - decreases as temperature increases
 - is slowed down by a catalyst
 - decreases as reactant concentration increases
- ___ 60. In a voltaic cell, from which electrode do the free electrons originate?
- anode only
 - cathode only
 - neither anode nor cathode
 - both anode and cathode
- ___ 61. At which electrode does oxidation occur in a voltaic cell?
- both anode and cathode
 - cathode only
 - anode only
 - either anode or cathode, depending on the metal
- ___ 62. Oxidation is ____.
- a gain of hydrogen
 - a gain of electrons
 - a loss of oxygen
 - a loss of electrons
- ___ 63. In which of these systems is the entropy decreasing?
- salt dissolving in water
 - air escaping from a tire

- ___ 74. What is defined as the charge an atom would have in a compound if its bonding electrons were assigned to the more electronegative atom?
- oxidation number
 - valence
 - reduction number
 - electropositivity
- ___ 75. In the following unbalanced reaction, which atom is reduced?
- $$\text{H}_2\text{O} + \text{Cl}_2 + \text{SO}_2 \rightarrow \text{HCl} + \text{H}_2\text{SO}_4$$
- chlorine
 - oxygen
 - sulfur
 - hydrogen
- ___ 76. A beta particle is a(n) ____.
- electron
 - helium nucleus
 - hydrogen nucleus
 - photon
- ___ 77. Which electrode is labeled as positive in a voltaic cell?
- both anode and cathode
 - anode only
 - cathode only
 - neither anode nor cathode
- ___ 78. If an isotope decays by the process of beta emission, ____.
- the atomic number changes
 - the mass number changes
 - protons are given off
 - the number of neutrons remains the same
- ___ 79. What occurs in a half-cell?
- oxidation only
 - reduction only
 - both oxidation and reduction
 - oxidation or reduction, but not both
- ___ 80. What is the change in atomic mass when an atom emits a beta particle?
- remains the same
 - decreases by 2
 - increases by 1
 - decreases by 1
- ___ 81. What is the oxidizing agent in the following reaction?
- $$\text{CH}_4 + 2\text{O}_2 \rightarrow \text{CO}_2 + \text{H}_2\text{O}$$
- CO_2
 - H_2O
 - CH_4
 - O_2
- ___ 82. Which variable is NOT required to calculate the Gibbs free-energy change for a chemical reaction?
- temperature in kelvins
 - moles of reactants
 - temperature in $^\circ\text{C}$
 - change in enthalpy
- ___ 83. In the reaction of calcium with chlorine, which atom is the oxidizing agent?
- calcium
 - chlorine
 - both a and b
 - neither a nor b
- ___ 84. Which atom has a change in oxidation number of -3 in the following redox reaction?
- $$\text{K}_2\text{Cr}_2\text{O}_7 + \text{H}_2\text{O} + \text{S} \rightarrow \text{KOH} + \text{Cr}_2\text{O}_3 + \text{SO}_2$$
- S
 - Cr
 - K
 - O
- ___ 85. When nitrous oxide is converted to nitrogen and oxygen, what is the term used to describe the oxygen atoms formed?
- reactants
 - products

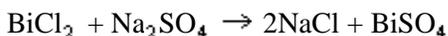
- c. an energy barrier between reactants and products
- d. the energy given off when reactants collide

___ 97. What is the effect of adding more water to the following equilibrium reaction?



- a. There is no effect.
- b. CO_2 concentration increases.
- c. More H_2CO_3 is produced.
- d. The equilibrium is pushed in the direction of reactants.

___ 98. Which element decreases its oxidation number in the following reaction?



- a. No element decreases its oxidation number.
- b. bismuth
- c. chlorine
- d. oxygen

___ 99. In the reaction of sodium with oxygen, which atom is reduced?

- a. oxygen
- b. sodium
- c. both a and b
- d. neither a nor b

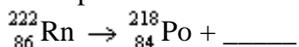
___ 100. Which of the following is the name of a process in which electrical energy causes a chemical reaction?

- a. electrolysis
- b. oxidation
- c. hydrolysis
- d. electronation

___ 101. What determines whether or not a reaction is spontaneous?

- a. change in entropy only
- b. change in enthalpy only
- c. enthalpy change and entropy change
- d. change in molar volume and heat change

___ 102. What particle is needed to complete this nuclear reaction?



- a. ${}^1_1\text{H}$
- b. ${}^0_{-1}\text{e}$
- c. ${}^1_0\text{n}$
- d. ${}^4_2\text{He}$

___ 103. In which of the following compounds is the oxidation number of nitrogen different from the other three?

- a. NH_4Cl
- b. $\text{Ca}(\text{NO}_3)_2$
- c. NO_3^-
- d. N_2O_5

___ 104. Why does a higher concentration make a reaction faster?

- a. Collisions occur with greater energy only.
- b. There are more collisions per second only.
- c. There are more collisions per second and the collisions are of greater energy.
- d. There are more collisions per second or the collisions are of greater energy.

___ 105. What is produced in the electrolysis of brine?

- a. chlorine gas and oxygen gas only
- b. chlorine gas and sodium only
- c. chlorine gas and hydrogen gas only

d. chlorine gas, sodium hydroxide, and hydrogen gas

___ 106. Identify the products formed in the net reaction of the electrolysis of water.

- a. liquid oxygen and hydrogen gas
- b. hydrogen gas and oxygen gas
- c. liquid hydrogen and oxygen gas
- d. aqueous hydrogen ion and hydroxyl ion

___ 107. In the reaction of hydrogen with iodine, which atom is the reducing agent?

- a. hydrogen
- b. iodine
- c. both a and b
- d. neither a nor b

___ 108. What symbol is used for beta radiation?

- a. ${}_{-1}^{-1}\text{e}$
- b. ${}_{0}^{0}\text{e}$
- c. ${}_{0}^{-1}\text{e}$
- d. ${}_{-1}^{0}\text{e}$

___ 109. In which of the following types of reaction are electrons gained?

- a. neutralization
- b. oxidation
- c. reduction
- d. decomposition

Unit 7 Practice Test Answer Section

MATCHING

- | | | | | |
|-----|--------------------------------|------------------------|---------|-------------|
| 1. | ANS: A
OBJ: 25.1.2 | PTS: 1
STA: Ch.11.d | DIF: L1 | REF: p. 804 |
| 2. | ANS: E
OBJ: 25.1.2 | PTS: 1
STA: Ch.11.d | DIF: L1 | REF: p. 802 |
| 3. | ANS: C
OBJ: 25.1.2 | PTS: 1
STA: Ch.11.d | DIF: L1 | REF: p. 801 |
| 4. | ANS: B
OBJ: 25.1.2 | PTS: 1
STA: Ch.11.d | DIF: L1 | REF: p. 800 |
| 5. | ANS: D
OBJ: 18.1.1 | PTS: 1
STA: Ch.8.d | DIF: L1 | REF: p. 543 |
| 6. | ANS: B
OBJ: 18.1.1 | PTS: 1
STA: Ch.8.a | DIF: L1 | REF: p. 542 |
| 7. | ANS: E
OBJ: 18.4.1 | PTS: 1
STA: Ch.7.f | DIF: L1 | REF: p. 566 |
| 8. | ANS: C
OBJ: 18.1.2 | PTS: 1
STA: Ch.8.c | DIF: L1 | REF: p. 547 |
| 9. | ANS: B
OBJ: 25.1.1 25.3.3 | PTS: 1
STA: Ch.11.b | DIF: L1 | REF: p. 813 |
| 10. | ANS: A
OBJ: 25.1.1 25.3.3 | PTS: 1
STA: Ch.11.b | DIF: L1 | REF: p. 810 |
| 11. | ANS: C
OBJ: 25.1.1 | PTS: 1
STA: Ch.11.c | DIF: L1 | REF: p. 799 |
| 12. | ANS: C
OBJ: 20.1.1 | PTS: 1
STA: Ch.2.a | DIF: L1 | REF: p. 634 |
| 13. | ANS: D
OBJ: 20.1.2 | PTS: 1
STA: Ch.2.a | DIF: L1 | REF: p. 634 |
| 14. | ANS: B
OBJ: 20.3.1 | PTS: 1
STA: Ch.3.g | DIF: L1 | REF: p. 650 |
| 15. | ANS: A
OBJ: 20.2.1 | PTS: 1
STA: Ch.1.d | DIF: L1 | REF: p. 639 |
| 16. | ANS: E
OBJ: 21.1.3 | PTS: 1 | DIF: L1 | REF: p. 667 |
| 17. | ANS: A
OBJ: 21.1.2 | PTS: 1 | DIF: L1 | REF: p. 665 |
| 18. | ANS: B
OBJ: 21.3.1 | PTS: 1 | DIF: L1 | REF: p. 678 |
| 19. | ANS: D
OBJ: 21.1.2 | PTS: 1 | DIF: L1 | REF: p. 665 |
| 20. | ANS: C | PTS: 1 | DIF: L1 | REF: p. 665 |

	OBJ: 21.1.2			
21.	ANS: A OBJ: 21.1.2	PTS: 1	DIF: L1	REF: p. 665
22.	ANS: D OBJ: 21.1.2	PTS: 1	DIF: L1	REF: p. 665
23.	ANS: C OBJ: 21.1.2	PTS: 1	DIF: L1	REF: p. 665
24.	ANS: B OBJ: 21.1.4	PTS: 1	DIF: L1	REF: p. 668
25.	ANS: B OBJ: 18.4.2	PTS: 1 STA: Ch.7.f	DIF: L1	REF: p. 569
26.	ANS: A OBJ: 18.4.1	PTS: 1 STA: Ch.7.f	DIF: L1	REF: p. 567
27.	ANS: C OBJ: 18.2.1	PTS: 1 STA: Ch.9.b	DIF: L1	REF: p. 550

MULTIPLE CHOICE

28.	ANS: A OBJ: 18.1.2	PTS: 1 STA: Ch.8.b	DIF: L1	REF: p. 545
29.	ANS: B OBJ: 25.1.2	PTS: 1 STA: Ch.11.d	DIF: L1	REF: p. 800
30.	ANS: D OBJ: 18.4.2	PTS: 1	DIF: L2	REF: p. 570
31.	ANS: B OBJ: 20.1.2	PTS: 1 STA: Ch.3.g	DIF: L2	REF: p. 635
32.	ANS: B OBJ: 18.2.2	PTS: 1 STA: Ch.9.a	DIF: L2	REF: p. 552 p. 553
33.	ANS: D OBJ: 20.1.1	PTS: 1 STA: Ch.3.g	DIF: L1	REF: p. 632
34.	ANS: D OBJ: 18.2.2	PTS: 1 STA: Ch.9.a	DIF: L2	REF: p. 554
35.	ANS: D OBJ: 18.4.2	PTS: 1	DIF: L1	REF: p. 570
36.	ANS: B OBJ: 20.1.1	PTS: 1 STA: Ch.3.g	DIF: L1	REF: p. 632
37.	ANS: C OBJ: 18.4.2	PTS: 1	DIF: L1	REF: p. 569
38.	ANS: A OBJ: 21.1.1	PTS: 1 STA: Ch.1.c	DIF: L1	REF: p. 664
39.	ANS: C OBJ: 18.4.2	PTS: 1 STA: Ch.7.f	DIF: L2	REF: p. 569
40.	ANS: B OBJ: 25.2.1	PTS: 1 STA: Ch.11.d	DIF: L2	REF: p. 800
41.	ANS: C OBJ: 18.4.2	PTS: 1	DIF: L1	REF: p. 570

42.	ANS: A OBJ: 20.2.2	PTS: 1 STA: Ch.3.g	DIF: L2	REF: p. 643
43.	ANS: A OBJ: 25.1.2	PTS: 1 STA: Ch.11.d	DIF: L2	REF: p. 801
44.	ANS: B OBJ: 20.2.2	PTS: 1 STA: Ch.3.g	DIF: L2	REF: p. 643
45.	ANS: A OBJ: 25.1.1	PTS: 1 STA: Ch.11.c Ch.11.d	DIF: L3	REF: p. 800
46.	ANS: C OBJ: 18.2.2	PTS: 1 STA: Ch.9.a	DIF: L2	REF: p. 554
47.	ANS: A OBJ: 20.1.2	PTS: 1 STA: Ch.3.g	DIF: L1	REF: p. 634
48.	ANS: C OBJ: 18.2.2	PTS: 1 STA: Ch.9.a	DIF: L2	REF: p. 554
49.	ANS: A OBJ: 25.3.3	PTS: 1	DIF: L1	REF: p. 813
50.	ANS: D OBJ: 18.4.2	PTS: 1	DIF: L2	REF: p. 569
51.	ANS: A OBJ: 18.2.1	PTS: 1 STA: Ch.8.a	DIF: L2	REF: p. 549
52.	ANS: C OBJ: 20.2.2	PTS: 1 STA: Ch.3.g	DIF: L1	REF: p. 643
53.	ANS: D OBJ: 18.2.1	PTS: 1 STA: Ch.9.b	DIF: L1	REF: p. 550
54.	ANS: B OBJ: 20.1.2	PTS: 1 STA: Ch.3.g	DIF: L1	REF: p. 634
55.	ANS: C OBJ: 21.1.1	PTS: 1 STA: Ch.1.g	DIF: L1	REF: p. 664
56.	ANS: A OBJ: 21.1.2	PTS: 1	DIF: L1	REF: p. 665
57.	ANS: C OBJ: 20.1.2	PTS: 1 STA: Ch.3.g	DIF: L1	REF: p. 634
58.	ANS: A OBJ: 18.4.3	PTS: 1 STA: Ch.7.f	DIF: L1	REF: p. 571
59.	ANS: A OBJ: 18.1.2	PTS: 1 STA: Ch.8.b	DIF: L1	REF: p. 545
60.	ANS: A OBJ: 21.1.2	PTS: 1	DIF: L1	REF: p. 665
61.	ANS: C OBJ: 21.1.2	PTS: 1	DIF: L1	REF: p. 665
62.	ANS: D OBJ: 20.1.1	PTS: 1 STA: Ch.3.g	DIF: L1	REF: p. 633
63.	ANS: B OBJ: 18.4.2	PTS: 1	DIF: L2	REF: p. 570
64.	ANS: D OBJ: 20.1.1	PTS: 1 STA: Ch.3.g	DIF: L1	REF: p. 632
65.	ANS: C OBJ: 20.2.2	PTS: 1 STA: Ch.3.g	DIF: L1	REF: p. 643
66.	ANS: C	PTS: 1	DIF: L1	REF: p. 664

	OBJ: 21.1.1	STA: Ch.1.c		
67.	ANS: B	PTS: 1	DIF: L2	REF: p. 633 p. 634
	OBJ: 20.1.2	STA: Ch.3.g		
68.	ANS: A	PTS: 1	DIF: L1	REF: p. 679
	OBJ: 21.3.1			
69.	ANS: A	PTS: 1	DIF: L2	REF: p. 639 p. 641
	OBJ: 20.2.1	STA: Ch.3.g		
70.	ANS: A	PTS: 1	DIF: L1	REF: p. 665
	OBJ: 21.1.2			
71.	ANS: C	PTS: 1	DIF: L1	REF: p. 546 p. 547
	OBJ: 18.1.2	STA: Ch.8.c		
72.	ANS: D	PTS: 1	DIF: L1	REF: p. 633
	OBJ: 20.1.1	STA: Ch.3.g		
73.	ANS: A	PTS: 1	DIF: L2	REF: p. 643
	OBJ: 20.2.2	STA: Ch.3.g		
74.	ANS: A	PTS: 1	DIF: L1	REF: p. 639
	OBJ: 20.2.1	STA: Ch.2.a		
75.	ANS: A	PTS: 1	DIF: L2	REF: p. 643
	OBJ: 20.2.2	STA: Ch.3.g		
76.	ANS: A	PTS: 1	DIF: L1	REF: p. 801
	OBJ: 25.1.2	STA: Ch.11.d		
77.	ANS: C	PTS: 1	DIF: L1	REF: p. 665
	OBJ: 21.1.2			
78.	ANS: A	PTS: 1	DIF: L2	REF: p. 801
	OBJ: 25.2.1	STA: Ch.11.d		
79.	ANS: D	PTS: 1	DIF: L1	REF: p. 665
	OBJ: 21.1.2			
80.	ANS: A	PTS: 1	DIF: L1	REF: p. 801
	OBJ: 25.1.2	STA: Ch.11.d		
81.	ANS: D	PTS: 1	DIF: L2	REF: p. 634
	OBJ: 20.1.2	STA: Ch.3.g		
82.	ANS: C	PTS: 1	DIF: L2	REF: p. 572
	OBJ: 18.4.4	STA: Ch.7.f		
83.	ANS: B	PTS: 1	DIF: L1	REF: p. 634
	OBJ: 20.1.2	STA: Ch.3.g		
84.	ANS: B	PTS: 1	DIF: L1	REF: p. 643
	OBJ: 20.2.2	STA: Ch.3.g		
85.	ANS: B	PTS: 1	DIF: L1	REF: p. 578
	OBJ: 18.5.2	STA: Ch.8.a		
86.	ANS: D	PTS: 1	DIF: L2	REF: p. 571
	OBJ: 18.4.3	STA: Ch.7.f		
87.	ANS: D	PTS: 1	DIF: L2	REF: p. 800
	OBJ: 25.1.2	STA: Ch.11.d		
88.	ANS: B	PTS: 1	DIF: L1	REF: p. 667
	OBJ: 21.1.3			
89.	ANS: A	PTS: 1	DIF: L1	REF: p. 634
	OBJ: 20.1.2	STA: Ch.3.g		
90.	ANS: C	PTS: 1	DIF: L1	REF: p. 664
	OBJ: 21.1.1	STA: Ch.1.g		

91.	ANS: A OBJ: 20.2.1	PTS: 1 STA: Ch.3.g	DIF: L2	REF: p. 639 p. 641
92.	ANS: D OBJ: 18.4.4	PTS: 1 STA: Ch.7.f	DIF: L2	REF: p. 573
93.	ANS: D OBJ: 18.1.2	PTS: 1 STA: Ch.8.c	DIF: L1	REF: p. 546
94.	ANS: D OBJ: 25.1.1 25.1.2	PTS: 1 STA: Ch.11.d	DIF: L2	REF: p. 800
95.	ANS: D OBJ: 18.2.1	PTS: 1 STA: Ch.8.a	DIF: L1	REF: p. 549 p. 550
96.	ANS: C OBJ: 18.1.1	PTS: 1 STA: Ch.8.d	DIF: L1	REF: p. 543
97.	ANS: C OBJ: 18.2.2	PTS: 1 STA: Ch.9.a	DIF: L2	REF: p. 552 p. 553
98.	ANS: A OBJ: 20.2.2	PTS: 1 STA: Ch.3.g	DIF: L2	REF: p. 643
99.	ANS: A OBJ: 20.1.1	PTS: 1 STA: Ch.3.g	DIF: L1	REF: p. 634
100.	ANS: A OBJ: 21.3.1	PTS: 1	DIF: L1	REF: p. 678
101.	ANS: C OBJ: 18.4.3	PTS: 1 STA: Ch.7.f	DIF: L2	REF: p. 572
102.	ANS: D OBJ: 25.2.1	PTS: 1 STA: Ch.11.d	DIF: L2	REF: p. 801
103.	ANS: A OBJ: 20.2.1	PTS: 1 STA: Ch.3.g	DIF: L2	REF: p. 639 p. 641
104.	ANS: B OBJ: 18.1.2	PTS: 1 STA: Ch.8.b	DIF: L1	REF: p. 545
105.	ANS: D OBJ: 21.3.3	PTS: 1	DIF: L2	REF: p. 681
106.	ANS: B OBJ: 21.3.3	PTS: 1	DIF: L2	REF: p. 680
107.	ANS: A OBJ: 20.1.2	PTS: 1 STA: Ch.3.g	DIF: L1	REF: p. 634
108.	ANS: D OBJ: 25.1.2	PTS: 1 STA: Ch.11.d	DIF: L2	REF: p. 801
109.	ANS: C OBJ: 20.1.1	PTS: 1 STA: Ch.3.g	DIF: L1	REF: p. 633