NT	
Name:	

#### \_ Class: \_

#### \_\_\_\_\_ Date: \_\_\_\_\_

## **Midterm practice test**

#### **Multiple Choice**

Choose the correct answer for each question. You may write on the test, however only answers on the scantron will be graded.

 $\Delta H_{fus}$  = 6.01 kJ/mol or 334 J/g  $\Delta H_{vap}$  = 40.7 kJ/mol or 2260 J/g c = 4.18 J/g°C or 1.00 cal/g °C

\*Remember your midterms covers everything back to January and the common topics from first semester.

\*Your test is very heavy on ch 7 and 8.

\*\*If you need help you must come see me before Thursday!

\*You will not have time to review on Thursday before the test or add anything on to your midterm sheet.

- 1. What is the net charge of the ionic compound calcium fluoride?
  - a. 2– c. 0
  - b. 1– d. 1+
  - 2. Which of the following is NOT a characteristic of most ionic compounds?
    - a. They are solids.
    - b. They have low melting points.
    - c. When melted, they conduct an electric current.
    - d. They are composed of metallic and nonmetallic elements.
    - 3. What causes water molecules to have a bent shape, according to VSEPR theory?
      - a. repulsive forces between unshared pairs of electrons
      - b. interaction between the fixed orbitals of the unshared pairs of oxygen
      - c. ionic attraction and repulsion
      - d. the unusual location of the free electrons
    - 4. What type of substance is malleable and ductile?
      - a. Metallic compounds c. Molecular compounds
      - b. Ionic compounds d. Noble Gases
- 5. What compound should dissolve in water?
  - a.  $PCl_3$ c.  $CCl_4$ b. Hexane ( $C_6H_{14}$ )d.  $SiO_2$

6. Some of the molecules found in the human body are  $NH_2CH_2COOH$  (glycine),  $C_6H_{12}O_6$  (glucose), and  $CH_3(CH_2)_{16}COOH$  (stearic acid). The bonds they form are

- a. Ionic c. Metallic
- b. Covalent d. Nuclear

	SOLUBILITY O	F SUBSTANCES IN W	ATER	@ 20 °C	
	Substance	Formula/State	Solub	ility (g/100g H2O)	
	Magnesium chloride	MgCl <sub>2</sub> / solid		54.6	
	Ammonia	NH₃/gas		34.0	
	Ethanol	CH <sub>3</sub> CH <sub>2</sub> OH / liquid		infinite	
	Benzoic Acid	C <sub>6</sub> H <sub>5</sub> COOH / solid		0.29	
······	7.			·.1 .1 1.	
	which of the substan	$^{\circ}C^{2}$	act as	either the solut	e or the solvent when mixed with 100
	a Magnewium Chl	oride	C	Fthanol	
	b Ammonia		d	Benzoic Acid	
	8 List the following atc	oms in order of decr	easino	first ionization	energy: BLiCFO
	a = F O C B	Li	cusing	Li B F	0. C
	b. B. Li. C. O.	F	с. d.	Li, B, C	0, C
	9. What is the correct nob	e gas electron config	uration	for a Chloride i	on?
	a. $[Ar]3s^23p^5$		c.	[Ne]3s <sup>2</sup> 3p <sup>5</sup>	
	b. $[Ar]3s^23p^6$		d.	$[Ne]3s^23p^6$	
1	0. What is the volume of	53.8 g of Carbon Diox	kide at	a pressure of 75	.0 kPa and a temperature of 345 K?
	a. 22.4 L		c.	8.23 L	
	b. 55.4 L		d.	78.4 L	
1	1. Which of the following	elements has the sma	allest at	tomic size?	
	a. Cesium		С.	Calcium	
1	b. Oxygen	1	u.	Chlorine	
I	2. Which of the forces t	elow is the weakes			
	a. intermolecular		с.	metallic	
1,	$\begin{array}{c} \text{b. electrostatic} \\ \text{c} \\ \text$		1		Will set in the many terms and some of the
1.	3. A 25.0 g sample of wat	er at 100°C has an en	ergy cr	lange of -16/0 J	. what is the new temperature of the
	a. 116°C		c.	104.18°C	
	b. 84.0°C		d.	58.5°C	
14	4. Arrange the following	elements: $P^{3-}$ , $S^{2-}$ , $K^+$	, Ca <sup>2+</sup> ,	Sc <sup>3+</sup> , in order of	increasing ionic size.
	a. $Sc^{3+}, Ca^{2+}, K^+, S^{2-},$	P <sup>3-</sup>	с.	P <sup>3-</sup> , S <sup>2-</sup> , K <sup>+</sup> , Ca	<sup>2+</sup> , Sc <sup>3+</sup>
	b. $K^+$ , $Ca^{2+}$ , $Sc^{3+}$ , $S^{2-}$ ,	P <sup>3-</sup>	d.	Sc <sup>3+</sup> , Ca <sup>2+</sup> , K <sup>+</sup> ,	P <sup>3-</sup> , S <sup>2-</sup>
1:	5. How many valence elec	ctrons are in an atom	of phos	sphorus?	
	a. 2		с.	4	
	b. 3		d.	5	
10	6. What is the electron co	nfiguration of the gall	ium io	n?	
	a. $1s^2 2s^2 2p^6 3s^2 3p^6$		c.	$1s^2 2s^2 2p^6 3s^2 3$	$p^64s^24p^6$
	b. $1s^2 2s^2 2p^6 3s^2 3p^5 4$	$s^{1}$	d.	$1s^2 2s^2 2p^6 3s^2 3$	$p^{6}3d^{10}$
1'	7 The electron configurat	ion of a fluoride ion	F <sup>-</sup> ie	-	-
1	$1^{2}$ $2^{2}$ $5^{5}$		<b>1</b> , 15 _	$1^{2}$ $2^{2}$ $6^{2}$ $1^{1}$	
	a. $1s^22s^22p^2$	a noon stom	с.	$1s^22s^22p^33s^1$	t of a potassium ion
	o. the same as that of	a neon atom	u.	the same as the	n of a polassium ion

Name: \_\_\_\_\_

 18.	Which of these elements does not exist as a dia	tom	ic molecule?
	a. Ne	c.	Н
	b. F	d.	Ι
 19.	Which of the following will conduct electricity	?	
	a. $CO_2$	c.	CO
	b. LiCl	d.	N <sub>2</sub>
20.	What causes dipole interactions?		
 	a. sharing of electron pairs		
	b. attraction between polar molecules		
	c. bonding of a covalently bonded hydrogen	to ar	unshared electron pair
	d. attraction between ions		
 21.	What causes hydrogen bonding?		
	a. attraction between ions		
	b. motion of electrons		
	c. sharing of electron pairs		
	d. bonding of a covalently bonded hydrogen	aton	n with an unshared electron pair
 22.	Which of the following pairs of elements is	s mo	st likely to form an ionic compound?
	a. magnesium and fluorine	c.	nitrogen and sulfur
	b. sodium and aluminum	d.	oxygen and chlorine
 23.	Which of the following compounds would you	ı exp	pect to be the best conductor of electricity?
	a. CH <sub>4(g)</sub>	c.	MgCl <sub>2(aq)</sub>
	b. $H_2O_{(l)}$	d.	N <sub>2(g)</sub>
 24.	Which of the following covalent bonds is the	e mo	st polar?
	b. c. d. e.		•
	a. <i>CC</i>	d.	СН
	b. CCl	e.	CS
	c. <i>C</i> Br		
25.	How many lone pairs of electrons are on the	cen	tral atom of dihydrogen sulfide?
	a. 0	d.	3
	b. 1	e.	4
	c. 2		
 26.	What is the shape of a molecule of NI <sub>3</sub> ?		
	a. Bent	d.	Trigonal Pyramidal
	b. Linear	e.	Tetrahedral
	c. Trigonal Planar		
 27.	What is the shape of a molecule of CHCl <sub>3</sub> ?		
	a. Linear	d.	Trigonal Pyramidal
	b. Bent	e.	Tetrahedral
	c. Trigonal Planar		
 28.	What is the shape of a molecule of NBrO?		
	a. Linear	С.	Trigonal Planar
•		a.	rngonal Pyramidal
 29.	Which of the following is the shape of $C_2H_2$ ?		
	a. Linear	С. Ј	Trigonal Tetrahedral
	d. Bent	a.	Ingonal Planar

### Name: \_\_\_\_\_

 30.	What intermolecular force holds together mo	lecule	s of SiO <sub>2</sub> ?
	a. Dispersion	c.	Hydrogen Bonding
	b. Dipole-Dipole	d.	Ionic Bonding
 31.	According to the octet rule, Sulfur will gai	n or s	hare electrons.
	a. 0	d.	3
	b. 1	e.	6
	c. 2		
 32.	How many valence electrons does an atom of any	halog	en have?
	a. 5	C.	7
	b. 8	d.	1
 33.	Using the electron dot structure, what would	a chlo	rine atom look like?
	••		
	:CI:		
	a.	c.	
			[ <b>:</b> c]•]-
	b. ••	d.	••
 34.	What is the correct electron dot structure for a	Sulfur	?
	_		
	• 5•		[ <b>:</b> S <b>:</b> ] <sup>2-</sup>
	a. ••	c.	••
			•
	5.		:5:
	b.	d.	•
 35.	Using the electron dot structure, a phosph	ide io	n would most look like
			[•• ¶3-
	• P•	C	
	a.	C.	
	: P:		[:P_] <sup>3-</sup>
	b. ••	d.	••
 36.	Which of these is <b>not</b> a characteristic of r	nost i	onic compounds?
	a. They have low melting points.	c.	When melted they conduct an electric
			current.
	b. They are composed of metallic and	d.	They are crystalline solids with
	nonmetallic elements.		repeating patterns.
 37.	What force is found between all molecules?		
	a. dipole-dipole	с. d	hydrogen bonding
20		u.	Ionic bonding
 38.	Which of the forces of molecular attraction is the	weake	st?
	a. Dispersion b Hydrogen bonding	с. d	ionic bonding
20	What type of intermolecular force is the most	u. timor	tont in $SiO_2 ?$
 39.	a Dispersion	, mor	Hydrogen Bonding
	b. Dipole-Dipole Forces	с.	nyurogon bonung

 40.	What type of intermolecular force is the most i	mort	tant in NH <sub>3</sub> ?
	a. Hydrogen Bonding	c.	Dipole-Dipole Forces
	b. Dispersion Forces		
 41.	What type of intermolecular force is the most i	mort	tant in CHCl <sub>3</sub> ?
	a. Hydrogen Bonding	c.	Dipole-Dipole Forces
	b. Dispersion Forces		
 42.	According to the octet rule, Sulfur will gain or	shar	e electrons
	a. 0	c.	2
	b. 4	d.	6
 43.	What is the correct name for this compound: H	INO <sub>3</sub>	3?
	a. Hydronitric Acid	c.	Nitric Acid
	b. Hydronitrous Acid	d.	Nitrous Acid
 44.	What is the mass of $5.3 \times 10^{22}$ molecules of eth	nyl al	lcohol (C <sub>2</sub> H <sub>5</sub> OH)?
	a. 4.0 grams	c.	46 grams
	b. 40 grams	d.	5.2 grams
 45.	Select the set of coefficients that properly	balaı	nce the equation below.
	$\_Fe_2O_3 \rightarrow \_Fe + \_O_2$		
	a. 2, 4, 3	c.	1, 2, 3
	b. 2, 2, 3	d.	3, 4, 4
 46.	How many moles of HNO <sub>3</sub> are needed to prepa	re 5.	0 liters of a 2.0 M solution of HNO <sub>3</sub> ?
	a. 2.5	c.	10
	b. 5	d.	20
 47.	Which of these is an example of an exothermic	che	mical process?
	a. evaporation of water	c.	photosynthesis of glucose
	b. melting ice	d.	combustion of gasoline
48	A sample of a gas with a volume of $3.9 \text{ L}$ at $27^{\circ}\text{C}$	and 1	00 atm is cooled at a constant pressure until the temperature is
 	11°C. Calculate the new volume.		
	a. 3.7 L	с	5.1 L
		•••	
	b. 4.0 L	d.	1.4 L
 49.	b. 4.0 L How much energy would be required to raise t	d. he te	1.4 L mperature of 75.0 g of water from 25.0 °C to 75.0°C?
 49.	<ul><li>b. 4.0 L</li><li>How much energy would be required to raise t</li><li>a. 15.7 kJ</li></ul>	d. he te c.	1.4 L emperature of 75.0 g of water from 25.0 °C to 75.0°C? 1.25 x 10 <sup>6</sup> J
 49.	<ul> <li>b. 4.0 L</li> <li>How much energy would be required to raise t</li> <li>a. 15.7 kJ</li> <li>b. 334 kJ</li> </ul>	d. he te c. d.	1.4 L emperature of 75.0 g of water from 25.0 °C to 75.0°C? 1.25 x 10 <sup>6</sup> J 4.85 kJ
 49. 50.	<ul> <li>b. 4.0 L</li> <li>How much energy would be required to raise t</li> <li>a. 15.7 kJ</li> <li>b. 334 kJ</li> <li>How many molecules of nitrogen gas are in a 5</li> </ul>	d. he te c. d. 5.50	1.4 L emperature of 75.0 g of water from 25.0 °C to 75.0 °C? 1.25 x 10 <sup>6</sup> J 4.85 kJ L at 75.0 kPa and 125 °C?
 49. 50.	<ul> <li>b. 4.0 L</li> <li>How much energy would be required to raise t</li> <li>a. 15.7 kJ</li> <li>b. 334 kJ</li> <li>How many molecules of nitrogen gas are in a 5</li> <li>a. 7.51 x 10<sup>22</sup></li> </ul>	d. he te c. d. 5.501 c.	1.4 L emperature of 75.0 g of water from 25.0 °C to 75.0°C? 1.25 x 10 <sup>6</sup> J 4.85 kJ L at 75.0 kPa and 125 °C? 6.02 x 10 <sup>23</sup>
 49. 50.	<ul> <li>b. 4.0 L</li> <li>How much energy would be required to raise t</li> <li>a. 15.7 kJ</li> <li>b. 334 kJ</li> <li>How many molecules of nitrogen gas are in a 5</li> <li>a. 7.51 x 10<sup>22</sup></li> <li>b. 3.50 x 10<sup>23</sup></li> </ul>	d. he te c. d. 5.50 c. d.	1.4 L emperature of 75.0 g of water from 25.0 °C to 75.0°C? 1.25 x 10 <sup>6</sup> J 4.85 kJ L at 75.0 kPa and 125 °C? 6.02 x 10 <sup>23</sup> 4.35 x 10 <sup>19</sup>
 49. 50. 51.	<ul> <li>b. 4.0 L</li> <li>How much energy would be required to raise t</li> <li>a. 15.7 kJ</li> <li>b. 334 kJ</li> <li>How many molecules of nitrogen gas are in a 5</li> <li>a. 7.51 x 10<sup>22</sup></li> <li>b. 3.50 x 10<sup>23</sup></li> <li>What is the correct formula for cobalt (II) cyar</li> </ul>	d. he te c. d. 5.50 c. d. nide?	1.4 L emperature of 75.0 g of water from 25.0 °C to 75.0°C? 1.25 x 10 <sup>6</sup> J 4.85 kJ L at 75.0 kPa and 125 °C? 6.02 x 10 <sup>23</sup> 4.35 x 10 <sup>19</sup>
 49. 50. 51.	<ul> <li>b. 4.0 L</li> <li>How much energy would be required to raise t</li> <li>a. 15.7 kJ</li> <li>b. 334 kJ</li> <li>How many molecules of nitrogen gas are in a 5</li> <li>a. 7.51 x 10<sup>22</sup></li> <li>b. 3.50 x 10<sup>23</sup></li> <li>What is the correct formula for cobalt (II) cyar</li> <li>a. CoCN</li> </ul>	d. he te c. d. 5.50 c. d. nide? c.	1.4 L emperature of 75.0 g of water from 25.0 °C to 75.0°C? 1.25 x 10 <sup>6</sup> J 4.85 kJ L at 75.0 kPa and 125 °C? 6.02 x 10 <sup>23</sup> 4.35 x 10 <sup>19</sup> CoCN <sub>2</sub>
 49. 50. 51.	<ul> <li>b. 4.0 L</li> <li>How much energy would be required to raise t</li> <li>a. 15.7 kJ</li> <li>b. 334 kJ</li> <li>How many molecules of nitrogen gas are in a 5</li> <li>a. 7.51 x 10<sup>22</sup></li> <li>b. 3.50 x 10<sup>23</sup></li> <li>What is the correct formula for cobalt (II) cyar</li> <li>a. CoCN</li> <li>b. Co(CN)<sub>2</sub></li> </ul>	d. he te c. d. 5.501 c. d. nide? c. d.	1.4 L sumperature of 75.0 g of water from 25.0 °C to 75.0 °C? 1.25 x $10^{6}$ J 4.85 kJ L at 75.0 kPa and 125 °C? 6.02 x $10^{23}$ 4.35 x $10^{19}$ CoCN <sub>2</sub> Cr(CN) <sub>2</sub>
 <ul><li>49.</li><li>50.</li><li>51.</li><li>52.</li></ul>	b. 4.0 L How much energy would be required to raise t a. 15.7 kJ b. 334 kJ How many molecules of nitrogen gas are in a S a. 7.51 x $10^{22}$ b. 3.50 x $10^{23}$ What is the correct formula for cobalt (II) cyar a. CoCN b. Co(CN) <sub>2</sub> P <sub>4</sub> O <sub>10</sub> + H <sub>2</sub> O> H <sub>3</sub> PO <sub>4</sub>	d. he te c. d. 5.50 c. d. nide? c. d.	1.4 L emperature of 75.0 g of water from 25.0 °C to 75.0°C? 1.25 x 10 <sup>6</sup> J 4.85 kJ L at 75.0 kPa and 125 °C? 6.02 x 10 <sup>23</sup> 4.35 x 10 <sup>19</sup> CoCN <sub>2</sub> Cr(CN) <sub>2</sub>
 <ul><li>49.</li><li>50.</li><li>51.</li><li>52.</li></ul>	b. 4.0 L How much energy would be required to raise t a. 15.7 kJ b. 334 kJ How many molecules of nitrogen gas are in a 5 a. 7.51 x $10^{22}$ b. 3.50 x $10^{23}$ What is the correct formula for cobalt (II) cyar a. CoCN b. Co(CN) <sub>2</sub> P <sub>4</sub> O <sub>10</sub> + H <sub>2</sub> O> H <sub>3</sub> PO <sub>4</sub> How many molecules of water are needed to p	d. he te c. d. 5.501 c. d. nide? c. d. d.	1.4 L emperature of 75.0 g of water from 25.0 °C to 75.0°C? 1.25 x 10 <sup>6</sup> J 4.85 kJ L at 75.0 kPa and 125 °C? 6.02 x 10 <sup>23</sup> 4.35 x 10 <sup>19</sup> CoCN <sub>2</sub> Cr(CN) <sub>2</sub> cc 66.8 g of phosphoric acid?
 <ul><li>49.</li><li>50.</li><li>51.</li><li>52.</li></ul>	b. 4.0 L How much energy would be required to raise t a. 15.7 kJ b. 334 kJ How many molecules of nitrogen gas are in a 5 a. 7.51 x $10^{22}$ b. 3.50 x $10^{23}$ What is the correct formula for cobalt (II) cyar a. CoCN b. Co(CN) <sub>2</sub> P <sub>4</sub> O <sub>10</sub> + H <sub>2</sub> O> H <sub>3</sub> PO <sub>4</sub> How many molecules of water are needed to p a. 2.74 x $10^1$	d. he te c. d. 5.50 1 c. d. iide? c. d. rodu	1.4 L imperature of 75.0 g of water from 25.0 °C to 75.0 °C? 1.25 x $10^{6}$ J 4.85 kJ L at 75.0 kPa and 125 °C? 6.02 x $10^{23}$ 4.35 x $10^{19}$ CoCN <sub>2</sub> Cr(CN) <sub>2</sub> ce 66.8 g of phosphoric acid? 6.16 x $10^{23}$
 <ul><li>49.</li><li>50.</li><li>51.</li><li>52.</li></ul>	b. 4.0 L How much energy would be required to raise t a. 15.7 kJ b. 334 kJ How many molecules of nitrogen gas are in a 5 a. 7.51 x $10^{22}$ b. 3.50 x $10^{23}$ What is the correct formula for cobalt (II) cyar a. CoCN b. Co(CN) <sub>2</sub> P <sub>4</sub> O <sub>10</sub> + H <sub>2</sub> O> H <sub>3</sub> PO <sub>4</sub> How many molecules of water are needed to p a. 2.74 x $10^1$ b. 6.16 x $10^1$	d. he te c. d. 5.50 1 c. d. iide? c. d. rodu c. d.	1.4 L imperature of 75.0 g of water from 25.0 °C to 75.0 °C? 1.25 x 10 <sup>6</sup> J 4.85 kJ L at 75.0 kPa and 125 °C? $6.02 x 10^{23}$ $4.35 x 10^{19}$ CoCN <sub>2</sub> Cr(CN) <sub>2</sub> ce 66.8 g of phosphoric acid? $6.16 x 10^{23}$ $61.6 x 10^{-23}$
 <ul> <li>49.</li> <li>50.</li> <li>51.</li> <li>52.</li> <li>53.</li> </ul>	b. 4.0 L How much energy would be required to raise t a. 15.7 kJ b. 334 kJ How many molecules of nitrogen gas are in a 5 a. 7.51 x $10^{22}$ b. 3.50 x $10^{23}$ What is the correct formula for cobalt (II) cyar a. CoCN b. Co(CN) <sub>2</sub> P <sub>4</sub> O <sub>10</sub> + H <sub>2</sub> O> H <sub>3</sub> PO <sub>4</sub> How many molecules of water are needed to p a. 2.74 x $10^1$ b. 6.16 x $10^1$ Which compound represents a molecular comm	d. he te c. d. 5.50 c. d. side? c. d. c. d. c. d. c. d.	1.4 L emperature of 75.0 g of water from 25.0 °C to 75.0 °C? 1.25 x 10 <sup>6</sup> J 4.85 kJ L at 75.0 kPa and 125 °C? $6.02 \times 10^{23}$ 4.35 x 10 <sup>19</sup> CoCN <sub>2</sub> Cr(CN) <sub>2</sub> ce 66.8 g of phosphoric acid? $6.16 \times 10^{23}$ $61.6 \times 10^{-23}$ d?
<ol> <li>49.</li> <li>50.</li> <li>51.</li> <li>52.</li> <li>53.</li> </ol>	b. 4.0 L How much energy would be required to raise t a. 15.7 kJ b. 334 kJ How many molecules of nitrogen gas are in a $\frac{4}{3}$ a. 7.51 x $10^{22}$ b. 3.50 x $10^{23}$ What is the correct formula for cobalt (II) cyar a. CoCN b. Co(CN) <sub>2</sub> P <sub>4</sub> O <sub>10</sub> + H <sub>2</sub> O> H <sub>3</sub> PO <sub>4</sub> How many molecules of water are needed to p a. 2.74 x $10^1$ b. 6.16 x $10^1$ Which compound represents a molecular comp a. S <sub>2</sub> Br <sub>6</sub>	d. he te c. d. 5.50 c. d. s. f. d. c. d. c. d. c. d. c. d. c. d. c. c. d. c. c. d. c. c. d. c. c. d. c. c. d. c. c. d. c. c. c. c. c. c. c. d. c. c. c. c. c. c. c. c. c. c. c. c. c.	1.4 L emperature of 75.0 g of water from 25.0 °C to 75.0 °C? 1.25 x 10 <sup>6</sup> J 4.85 kJ L at 75.0 kPa and 125 °C? $6.02 \times 10^{23}$ 4.35 x 10 <sup>19</sup> CoCN <sub>2</sub> Cr(CN) <sub>2</sub> ce 66.8 g of phosphoric acid? $6.16 \times 10^{23}$ $61.6 \times 10^{-23}$ d? HBr

		The correct products for the follow	ing reaction	is:
		a. $MgCl + H_2$	c.	$MgCl_2 + H_2$
		b. $MgH_2 + Cl_2$	d.	no reaction
	55.	How many moles of $H_3PO_4$ are produced	iced when 71.	$.0 L P_4 O_{10}$ reacts completely to form $H_3 PO_4$ ?
		P	$V_4O_{10}(s) + 6H$	$_{2}O(l) \rightarrow 4H_{3}PO_{4}(aq)$
		a. 6.35 mol	с.	16.0 mol
		b. 397.6 mol	d.	12.7 mol
	56.	The graph below represents t	he uniform	cooling (freezing) of a substance, starting
		with the substance as a gas al	oove its bo	iling point.
		A B G		
			-	
		Tem	$\checkmark$	
			-	
			·	
		Choose the correct formula to f	ind the amou	unt of heat change from D to E.
		a. $\mathbf{Q} = \mathbf{m} \Delta \mathbf{H}_{vap}$	d.	$Q = m(-\Delta H_{vap})$
		b. <b>Q = m</b> ∆H <sub>fus</sub>	e.	$Q = mC\Delta T$
		c. <b>Q = m(-</b> ∆H <sub>fus</sub> )		
	57.	How much heat in kJ is absorbed w	when 50.0 g	of ice at 0°C <u>melts</u> ?
		a. 20.9 kJ	с.	0 J
		b. 226 kJ	d.	16.7 kJ
	58.	What is the molality of a solution con	taining 8.0 gra	ams of solute in 0.50 kg of solvent? (molar mass of solute
		= 24  g	C	Am
		b. 0.67 <i>m</i>	d.	1.67 <i>m</i>
Multin	le R	esnonse		
Identify	y on	e or more choices that best complete th	e statement oi	r answer the question.
55		1		1

\_\_\_\_\_ 59. What intermolecular forces are present between molecules of water?

 $\underline{\qquad} 54. \underline{\qquad} Mg + \underline{\qquad} HCl \rightarrow \underline{\qquad}$ 

a.	Dispersion	с.	Hydrogen Bonding
b.	Dipole-Dipole	d.	Ionic Bonding
Wh	ich of the following molecules are nonpola	r?	
a.	CHCl <sub>3</sub>	d.	$F_2$

- a. $CHCl_3$ a. $F_2$ b. $SCl_2$ e. $CO_2$
- c. HNO

\_\_\_\_\_ 60.

### Name: \_\_\_\_\_

- \_\_\_\_\_ 61. Which of the following molecules are polar?
  - $\begin{array}{ccc} a. & NH_3 & & c. & CCl_4 \\ b. & HF & & d. & HCOOH \\ \end{array}$

# Midterm practice test Answer Section

### MULTIPLE CHOICE

1.	ANS: C	PTS: 1	DIF: L1	REF: p. 194
	OBJ: 7.2.1	STA: Ch.3.a		
2.	ANS: B	PTS: 1	DIF: L1	REF: p. 196   p. 198
	OBJ: 7.2.2	STA: Ch.2.a		
3.	ANS: A	PTS: 1	DIF: L2	REF: p. 233
	OBJ: 8.3.2	STA: Ch.2.a		
4.	ANS: A	PTS: 1		
5.	ANS: A	PTS: 1		
6.	ANS: B	PTS: 1		
7.	ANS: C	PTS: 1		
8.	ANS: A			
	St. 1c			
0	PIS: I	SIA: IC		
9. 10	ANS: D	P15: 1		
10.	ANS: B			
	Stt. 411			
	PTS: 1	STA: 4h		
11.	ANS: B			
	St. 1c			
	PTS: 1			
12.	ANS: A	PTS: 1		
13.	ANS: B	PTS: 1		
14.	ANS: A	PTS: 1		
15.	ANS: D	PTS: 1	DIF: L1	REF: p. 187
	OBJ: 7.1.1	STA: Ch.1.c	Ch.2.a   Ch.1.d	
16.	ANS: D	PTS: 1	DIF: L2	REF: p. 190
	OBJ: 7.1.1	STA: Ch.1.g		
17.	ANS: B	PTS: 1	DIF: L1	REF: p. 192
	OBJ: 7.1.4	STA: Ch.1.g		
18.	ANS: A	PTS: 1	DIF: L1	REF: p. 217
10	OBJ: 8.2.1	SIA: Ch.2.a		
19.	ANS: B ODI: $0.21 + 0.24$	PIS: 1 STA: Ch 2 a	DIF: L2	REF: p. 222
20	ODJ. 0.2.1   0.2.4	STA. CII.2.a		$\mathbf{DEE}$ , $\mathbf{p}$ 240
20.	AND. D ORI: $811   8/3$	$\frac{1}{5} \frac{1}{5} \frac{1}$	DIF. LI	кег. р. 240
21	ANS. D	$\mathbf{PTS} \cdot 1$	DIF I 2	$\mathbf{R}\mathbf{F}\mathbf{F}\cdot\mathbf{p}^{2/4}$
<i>2</i> 1.	OBI: 843	STA: Ch 2 a	$D\Pi$ . $L2$	$\mathbf{NL}\mathbf{i} \cdot \mathbf{p} \cdot 241$
22	ANS A	$PTS \cdot 1$		
22.	ANS: C	$PTS \cdot 1$		
6 d a 1 a		<b>T T M</b>		

24.	ANS:	В	PTS:	1				
25.	ANS:	С	PTS:	1				
26.	ANS:	D	PTS:	1				
27.	ANS:	Е	PTS:	1				
28.	ANS:	В	PTS:	1				
29.	ANS:	А	PTS:	1				
30.	ANS:	А	PTS:	1				
31.	ANS:	С	PTS:	1				
32.	ANS:	С	PTS:	1				
33.	ANS:	А	PTS:	1				
34.	ANS:	D	PTS:	1				
35.	ANS:	С	PTS:	1				
36.	ANS:	А	PTS:	1				
37.	ANS:	В	PTS:	1				
38.	ANS:	А	PTS:	1				
39.	ANS:	А	PTS:	1				
40.	ANS:	А	PTS:	1				
41.	ANS:	С	PTS:	1				
42.	ANS:	С	PTS:	1				
43.	ANS:	С						
	ST 2A	, 2B						
	DTC	1						
11	FIS.	1	DTC	1	VEV.	Doprosontativa	Dorticlos t	o Mass
44. 45	ANS.	A	DTC.	1	KLI. STA:	3a		lancing Equations
45. 46	ANS.	A C	r 15.	1	SIA.	Ja	KET. Da	
40.	St 6d	C						
	51.04							
	PTS:	1	STA:	6d				
47.	ANS:	D						
	St. 7b							
40	PTS:	1						
48.	ANS:	A						
	St. 4c							
	PTS:	1	STA:	4c				
49.	ANS:	A						
	St. 7d							
	PTS:	1	STA:	7d				
50.	ANS:	А						
	St. 4h							
	DLC.	1	ST V ·	4h				
	гıз.	1	SIA.	411				

51.	ANS: B ST 2A			
52	PTS: 1 ANS: C	PTS· 1		
53	ANS: A	110. 1		
55.	ST 2A, 2B			
	PTS: 1			
54.	ANS: C			
	ST 3			
	PTS: 1			
55.	ANS: D	PTS: 1	STA: 3a	KEY: Balancing Equations
56.	ANS: C	PTS: 1		
57.	ANS: D	PTS: 1		
58.	ANS: B	PTS: 1	DIF: L2	REF: p. 491
	OBJ: 16.4.1	STA: Ch.6.d		-

#### **MULTIPLE RESPONSE**

59.	ANS:	A, B, C	PTS:	1
60.	ANS:	D, E	PTS:	1
61.	ANS:	A, B	PTS:	1