

Polarity and Intermolecular Forces Worksheet
Chemistry Chapters 12, 14, and 17
2 points

Name: _____

Date: _____ Hour: _____

1. Use the electronegativity table on page 303 of your textbook to decide if the following bonds are ionic, polar covalent, or nonpolar covalent:

	Electronegativity Difference	Type of Bond	If polar, show partial charges
ex> C - O	1.00	polar covalent	δ^+ C-O δ^-
a) Cl - As	_____	_____	
b) O - K	_____	_____	
c) N - N	_____	_____	
d) O - H	_____	_____	
e) Si - S	_____	_____	
f) N - P	_____	_____	
g) Si - N	_____	_____	
h) O - P	_____	_____	
i) Mg - O	_____	_____	

2. What is the difference in the electrons in an ionic and covalent bond? _____

3. What is the difference in the electrons in a polar covalent and nonpolar covalent bond? _____

4. Draw the structures of the following molecules and decide if they are polar or nonpolar:

(a) propane

(b) methyl alcohol

(c) water

(d) cyclopentane

(e) CS₂

(e) PCl₃

5. Use the following chart to answer the questions below:

Substance	Intermolecular Force	Melting Point (°C)	Substance	Intermolecular Force	Melting Point (°C)
MgF ₂		1248	HF		- 83
KF		860	HBr		-89
NaCl		801	Cl ₂		-101
I ₂		114	HCl		-115
H ₂ O		0	C ₅ H ₁₂		-130
Br ₂		-7	CH ₄		-182
HI		-51	F ₂		-220
NH ₃		- 78	H ₂		-259

(a) Which intermolecular force appears to be the hardest to overcome with heat? Why?

(b) Which intermolecular force appears to be the easiest to overcome with heat? Why?

(c) Write a list of intermolecular forces from strongest to weakest:
