

# PHYSICAL SETTING CHEMISTRY

Wednesday, June 22, 2011 — 1:15 to 4:15 p.m., only

## ANSWER BOOKLET

Student ..... Sex:  Male  
 Female  
Teacher .....  
School ..... Grade .....

Answer all questions in this examination. Record your answers in this booklet.

Part	Maximum Score	Student's Score
A	30	
B-1	20	
B-2	15	
C	20	
Total Written Test Score (Maximum Raw Score: 85)		<input type="text"/>
Final Score (from conversion chart)		<input type="text"/>
Raters' Initials:		
Rater 1 ..... Rater 2 .....		

### Part A

- |          |          |          |
|----------|----------|----------|
| 1 .....  | 11 ..... | 21 ..... |
| 2 .....  | 12 ..... | 22 ..... |
| 3 .....  | 13 ..... | 23 ..... |
| 4 .....  | 14 ..... | 24 ..... |
| 5 .....  | 15 ..... | 25 ..... |
| 6 .....  | 16 ..... | 26 ..... |
| 7 .....  | 17 ..... | 27 ..... |
| 8 .....  | 18 ..... | 28 ..... |
| 9 .....  | 19 ..... | 29 ..... |
| 10 ..... | 20 ..... | 30 ..... |

Part A Score

### Part B-1

- |          |          |
|----------|----------|
| 31 ..... | 41 ..... |
| 32 ..... | 42 ..... |
| 33 ..... | 43 ..... |
| 34 ..... | 44 ..... |
| 35 ..... | 45 ..... |
| 36 ..... | 46 ..... |
| 37 ..... | 47 ..... |
| 38 ..... | 48 ..... |
| 39 ..... | 49 ..... |
| 40 ..... | 50 ..... |

Part B-1 Score

The declaration below must be signed when you have completed the examination.

I do hereby affirm, at the close of this examination, that I had no unlawful knowledge of the questions or answers prior to the examination and that I have neither given nor received assistance in answering any of the questions during the examination.

Signature

**Part B-2**

**For Raters  
Only**

**51** \_\_\_\_\_

**51**

\_\_\_\_\_

\_\_\_\_\_

**52** \_\_\_\_\_

**52**

\_\_\_\_\_

\_\_\_\_\_

**53** \_\_\_\_\_

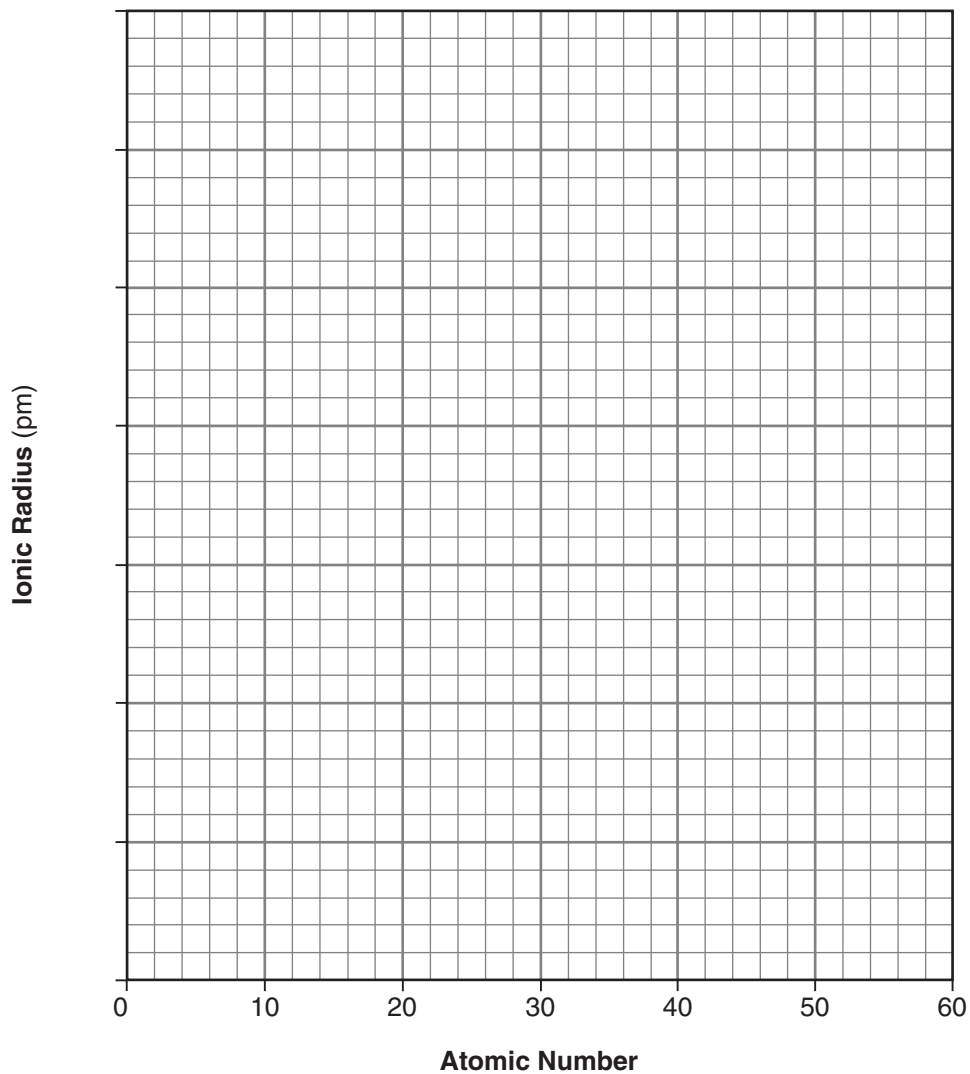
**53**

**54** \_\_\_\_\_

**54**

55 and 56

### Ionic Radius Versus Atomic Number



55

56

57 \_\_\_\_\_ pm

57

58 \_\_\_\_\_

58

\_\_\_\_\_

59 \_\_\_\_\_

59

\_\_\_\_\_

\_\_\_\_\_

**For Raters  
Only**

60 \_\_\_\_\_

60

61 \_\_\_\_\_

61

\_\_\_\_\_

62 \_\_\_\_\_ mol/L

62

63 \_\_\_\_\_

63

\_\_\_\_\_

64 \_\_\_\_\_

64

65 \_\_\_\_\_

65

**Total Score  
for Part B-2**

**Part C**

**For Raters Only**



66

67 \_\_\_\_\_

67

68 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

68

69 \_\_\_\_\_

69

_____ Weakest intermolecular forces	_____  _____	_____  _____	_____ Strongest intermolecular forces
--	--------------------	--------------------	--

70

71 \_\_\_\_\_

71

72 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

72

73

73

**For Raters  
Only**

74 Mixture 1: \_\_\_\_\_

74

Mixture 2: \_\_\_\_\_

75 \_\_\_\_\_  $\text{cm}^3$

75

76 \_\_\_\_\_

76

\_\_\_\_\_

77 \_\_\_\_\_

77

\_\_\_\_\_

78 \_\_\_\_\_

78

\_\_\_\_\_

79 \_\_\_\_\_

79

\_\_\_\_\_

80 \_\_\_\_\_

80

\_\_\_\_\_

81 \_\_\_\_\_

81

82 \_\_\_\_\_

82

**For Raters  
Only**

83 \_\_\_\_\_

83

\_\_\_\_\_

84  ${}_{84}^{210}\text{Po} \rightarrow {}_2^4\text{He} + \text{_____}$

84

85 \_\_\_\_\_ mg

85

**Total Score  
for Part C**

