

14.1 More Structures & Shapes

Question Paper

Course	DP IB Chemistry
Section	14. Chemical Bonding & Structure (HL only)
Topic	14.1 More Structures & Shapes
Difficulty	Medium

Time allowed: 10
Score: /5
Percentage: /100

Question 1

Which of the following statements are true for XeO_3 ?

- I. Has a trigonal pyramidal shape
- II. One possible Lewis structure has two oxygen atoms with a formal charge of -1
- III. Xenon has a formal charge of +2 in one possible Lewis structure

- A. I and II only
- B. I and III only
- C. II and III only
- D. I, II and III

[1 mark]

Question 2

Which species breaks the octet rule?

- A. PCl_3
- B. BF_4^-
- C. SCl_4
- D. NH_4^+

[1 mark]

Question 3

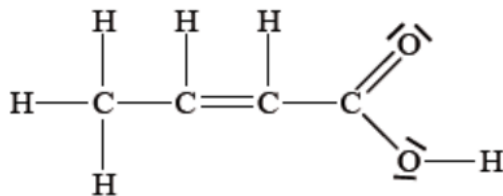
Which molecule is trigonal bipyramidal in shape?

- A. PCl_3
- B. SiCl_4
- C. PCl_5
- D. SF_6

[1 mark]

Question 4

How many sigma (σ) and pi (π) bonds are there in the following molecule?



	Sigma (σ) bonds	Pi (π) bonds
A	9	2
B	9	4
C	11	2
D	11	4

[1 mark]

Question 5

Which combination correctly describes the geometry of BrF_4^- ?

	Electron domain geometry around Br	Molecular geometry around Br
A	Octahedral	Tetrahedral
B	Tetrahedral	Square planar
C	Octahedral	Square planar
D	Tetrahedral	Tetrahedral

[1 mark]