

Quiz 1: Numbers, Sets and Alphabets

Q1 What is the value of $\lfloor -3.4 \rfloor$?

Answer: -4 is the largest integer which is less than or equal to -3.4 .

Q2 Let A be the set $\{2, 4, 6, 8\}$ and B be the set $\{5, 6, 7, 8\}$. Which of the following sets is $A \oplus B$ (the symmetric difference of A and B)?

Answer: $A \oplus B = (A \cup B) \setminus (A \cap B) = \{2, 4, 5, 6, 7, 8\} \setminus \{6, 8\} = \{2, 4, 5, 7\}$

Q3 Let A be the set $\{b, a, n, a, n, a\}$ and B be the set $\{p, i, n, e, a, p, p, l, e\}$. Which of the following sets is $A \cap B$?

Answer: Simplifying, $A = \{a, n, b\}$ and $B = \{a, e, i, l, n, p\}$ so $A \cap B = \{a, n\}$

Q4 Let w be the word abb , and let v be the word bab . Which of the following is the word wv ?

Answer: $wv = (abb)(bab) = abbbab$

Q5 Let w be the word abb and v be the word ba . What is the length of the word $vwvw$?

Answer: $vwvw = (ba)(abb)(ba)(abb) = baabbbbaabb$ so $\text{length}(vwvw) = 10$.