Set Theory Extra Practice

Let U = all positive whole numbers less than 13.
Set B = {2, 3, 4, 5, 6}, Set A = {5, 6, 7, 8}, Set C = {10, 11, 12}

1. $B \cup C$
2. $(B \cup C) \cap A$
3. $\sim A \cap B$
4. $A \cap B \cap C$
5. $A \cup B \cup C$

Let U represent all whole numbers no greater than 30.
Let S = even numbers
Let C represent multiples of 3

6. How many elements are in the set $S \cap C$?
7. $S \cap \sim C$

Let U = {0,1,2,3,4,5,6,7,8,9}
L = {0,3,7}
K = {0,3,4,7}

8. How many odd numbers are in the set $\sim(L \cup K)$?
9. $(L \cup K)$

Let A={4,8,12} and B={6, 12, 18}.
10. What is the union of set A and B?
11. What is the intersection of set A and B?

Let U be the set of whole numbers less than 15.
A={0,2,6,8}, B = {1,3,5,8, 10}, and C={2, 8, 9, 10, 11, 14}

12. $A \cup B$
13. $A \cap B$
14. $\sim(A \cup B)$
15. $\sim(A \cap \sim B) \cup (\sim A \cup B)$

Answers:
1. {2,3,4,5,6,10, 11, 12}
2. {5,6}
3. {2,3,4}
4. { }
5. {2,3,4,5,6,7,8,10,11,12}
6. 5 elements
7. {2,4,8,10,14,16,2022,26,28}
8. 3

9. {0,3,4,7}
10. {4,6,8,12,18}
11. {12}
12. {0,1,2,3,5,6,8,10}
13. {8}
14. {4,7,9,11,12,13,14}
15. {1,3,4,5,7,8,9,10,11,12,13,14}