Subject: DISCRETE MATH

No:

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WORKSHEET 7

Let A = {2,5}, B = {5,7,9}, C = {x | is an odd number less than 9}, and D = {x | x is an even number less than 9}.

1, 3, 5, 7

2, 4, 6, 8

1. A ∪ B = {2, 5, 7, 9} ✓
2. A ∪ C = {1, 2, 3, 5, 7} ✓
3. A ∪ D = {2, 4, 5, 6, 8} ✓
4. B ∪ C = {1, 3, 5, 7, 9} ✓
5. B ∪ D = {2, 4, 5, 6, 7, 8, 9} ✓
6. C ∪ D = {1, 2, 3, 4, 5, 6, 7, 8} ✓
7. A ∩ B = {5} ✓
8. A ∩ C = {5} ✓
9. A ∩ D = {2} ✓
10. B ∩ C = {5, 7} ✓
11. B ∩ D = { } ✓
12. C ∩ D = { } ✓

20. A = {1, 2, 3} ✓
    B = {2, 4, 5} ✓

For this question, as long as the common element is 2 and all the elements inside any of the both sets - then it is correct.

21. M = {3, 6, 9, 12, 15, 18, 21, 24, ...} ✓
    N = {4, 8, 12, 16, 20, 24, ...} ✓
    m ∩ N = {12, 24}

Intersection of m and n including those common numbers of multiples of 3 and 4.

You cannot list it. Too many!

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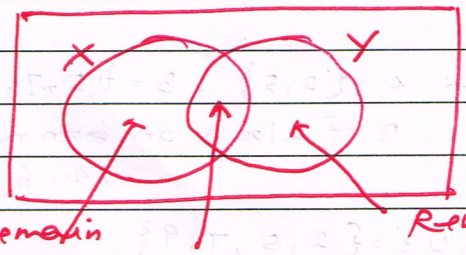
10 elements

22. $X = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10\}$ – 5

$Y = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10, \ldots 15\}$ (5 elements.)

$X \cap Y =$ 5 elements.

$X \cup Y = 15$ elements ✗



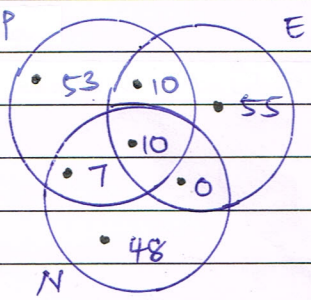
Remain 5 elements

5 elements.

Remain 10 elements

So, $X \cup Y$ has 5+5+10 = 20 elements

26.



80 - P

75 - E

65 - N

30 - P and E

25 - P and N

10 - E and N

5 - E and P and N

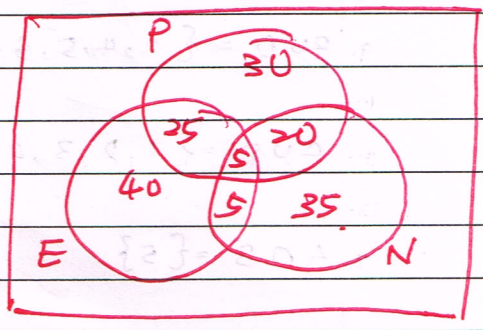
a. Only P = 53 ✓

b. Only N = 48 ✓

c. 7 ✓

d. 220 student ✗

You must know how to translate into the Venn diagram.



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