RESULTS

| At most the size of the set sizes | 78% |
|-----------------------------------|-----|
| | |

- Could be smaller, same, or larger than the sum of the 13% set sizes.
- At least the sum of the set sizes 8%

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Results gathered from 481 respondents.

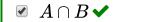
FEEDBACK

at most the sum of the sizes as some elements may be in both sets, and adding the sizes counts these elements twice.

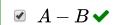
1

0 points possible (ungraded)

Which of the following are finite for every finite set A and an infinite set B?



 \square $A \cup B$



 $\square B-A$

 \square $A\Delta B$



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You have used 1 of 4 attempts

1 Answers are displayed within the problem

2

1/1 point (graded)

Which of the following pairs A and B satisfy $|A \cup B| = |A| + |B|$?

- \blacksquare $\{1,2\}$ and $\{2,3\}$
- $lacksquare \{i \in \mathbb{Z}: |i| \leq 3\}$ and $\{i \in \mathbb{Z}: 2 \leq |i| \leq 5\}$
- {English words starting with the letter 'a'} and {English words ending with the letter 'a'}



Explanation

 $|A \cup B| = |A| + |B|$ holds when A and B are disjoint.

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You have used 1 of 3 attempts

1 Answers are displayed within the problem

3

2.0/2.0 points (graded)

$$|A \cup B \cup C| = |A| + |B| + |C|$$
 whenever:

A and B are disjoint and B and C are disjoint,

- True
- False

Explanation

False. Let $A=C=\{1\}$ and $B=\{2\}$. Then A and B are disjoint, B and C are disjoint. But $|A \cup B \cup C| = 2$ while |A| + |B| + |C| = 3

A and B are disjoint, B and C are disjoint, and A and C are disjoint.

| ● True | | | |
|---------|--|--|--|
| | | | |
| O False | | | |

Explanation

True. Since A and C are disjoint, and B and C are disjoint, we must have that $A \cup B$ and C are disjoint. Hence $|A \cup B \cup C| = |A \cup B| + |C|$ Since A and B are disjoint, we have $|A \cup B| = |A| + |B|$ Hence $|A \cup B \cup C| = |A| + |B| + |C|$

Submit

You have used 2 of 4 attempts

1 Answers are displayed within the problem

4. Non perfect-squares

0 points possible (ungraded)

Recall that a square of an integer, for example, 1, 4 and 9, is called a *perfect square*. How many integers between 1, and 100, inclusive, are not perfect squares?



Explanation

The perfect squares between 1 and 100 are 1^2 , 2^2 ,, 10^2 . Hence there are 10. By the complement rule, 100-10=90 integers between 1 and 100 are not perfect squares.

You have used 1 of 4 attempts Submit

1 Answers are displayed within the problem

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