Set Theory · Partner Check 1

A

Name: _____ Partner's name: _____ Date: _____

Directions: Work alone on your own problems. Partner B has different problems with the same answers. After each problem, compare answers; if they differ, find the mistake together.
Answer conventions: sets in roster form with elements in increasing order, ∅ for the empty set; truth columns as T/F strings in standard row order (TT, TF, FT, FF; with r: TTT, TTF, ..., FFF); fractions in lowest terms; ordered pairs as (x, y).

1

$A = \{2, 3, 4, 5, 10\}$, $B = \{1, 2, 5, 7, 10\}$. Find $A - B$.

Answer: _____ Match? ☐ Yes ☐ No

2

$A = \{1, 4, 8, 9, 10\}$, $B = \{2, 3, 4, 7, 10\}$. Find $A \cap B$.

Answer: _____ Match? ☐ Yes ☐ No

3

How many elements does the power set of a 2-element set have?

Answer: _____ Match? ☐ Yes ☐ No

4

$|A| = 21$, $|B| = 23$, $|A \cap B| = 1$. Find $|A \cup B|$.

Answer: _____ Match? ☐ Yes ☐ No

5

How many elements does the power set of a 5-element set have?

Answer: _____ Match? ☐ Yes ☐ No

6

$|A| = 17$, $|B| = 15$, $|A \cap B| = 5$. Find $|A \cup B|$.

Answer: _____ Match? ☐ Yes ☐ No

Set Theory · Partner Check 1

B

Name: _____ Partner's name: _____ Date: _____

Directions: Work alone on your own problems. Partner A has different problems with the same answers. After each problem, compare answers; if they differ, find the mistake together.
Answer conventions: sets in roster form with elements in increasing order, ∅ for the empty set; truth columns as T/F strings in standard row order (TT, TF, FT, FF; with r: TTT, TTF, ..., FFF); fractions in lowest terms; ordered pairs as (x, y).

1

U = {1, ..., 10}, A = {1, 2, 5, 6, 8}, B = {3, 4, 5, 8}. Find B − A.

Answer: _____ Match? ☐ Yes ☐ No

2

U = {1, ..., 10}, A = {5, 6, 7, 8, 9}, B = {4, 8, 9, 10}. Find B − A.

Answer: _____ Match? ☐ Yes ☐ No

3

How many subsets of {1, ..., 3} contain the element 1?

Answer: _____ Match? ☐ Yes ☐ No

4

A Venn diagram has 15 in A only, 20 in B only and 8 in both. How many are in A ∪ B?

Answer: _____ Match? ☐ Yes ☐ No

5

How many subsets of {1, ..., 6} contain the element 1?

Answer: _____ Match? ☐ Yes ☐ No

6

A Venn diagram has 11 in A only, 9 in B only and 7 in both. How many are in A ∪ B?

Answer: _____ Match? ☐ Yes ☐ No

DISCRETE MATH ■ UNIT 5 ■ SET THEORY ■ LEVEL CP1

Set Theory · Partner Check 1

A

Name: _____ Partner's name: _____ Date: _____

Directions: Work alone on your own problems. Partner B has different problems with the same answers. After each problem, compare answers; if they differ, find the mistake together.
Answer conventions: sets in roster form with elements in increasing order, ∅ for the empty set; truth columns as T/F strings in standard row order (TT, TF, FT, FF; with r: TTT, TTF, ..., FFF); fractions in lowest terms; ordered pairs as (x, y).

1

How many elements does the power set of a 1-element set have?

Answer: _____ Match? ☐ Yes ☐ No

2

A = {1, 3, 4, 5, 8}, B = {2, 4, 8, 9, 10}. Find A ∩ B.

Answer: _____ Match? ☐ Yes ☐ No

3

|A| = 19, |B| = 9, |A ∩ B| = 5. Find |A ∪ B|.

Answer: _____ Match? ☐ Yes ☐ No

4

|A| = 13, |B| = 25, |A ∩ B| = 6. Find |A ∪ B|.

Answer: _____ Match? ☐ Yes ☐ No

5

How many elements does the power set of a 4-element set have?

Answer: _____ Match? ☐ Yes ☐ No

6

A = {2, 3, 4, 6, 7}, B = {1, 2, 6, 9, 10}. Find A ∩ B.

Answer: _____ Match? ☐ Yes ☐ No

Set Theory · Partner Check 1

B

Name: _____ Partner's name: _____ Date: _____

Directions: Work alone on your own problems. Partner A has different problems with the same answers. After each problem, compare answers; if they differ, find the mistake together.
Answer conventions: sets in roster form with elements in increasing order, ∅ for the empty set; truth columns as T/F strings in standard row order (TT, TF, FT, FF; with r: TTT, TTF, ..., FFF); fractions in lowest terms; ordered pairs as (x, y).

1

How many subsets of {1, ..., 2} contain the element 1?

Answer: _____ Match? ☐ Yes ☐ No

2

U = {1, ..., 10}, A = {2, 6, 7, 9, 10}, B = {1, 3, 5, 9}. Find (A ∪ B)'.

Answer: _____ Match? ☐ Yes ☐ No

3

A Venn diagram has 4 in A only, 15 in B only and 4 in both. How many are in A ∪ B?

Answer: _____ Match? ☐ Yes ☐ No

4

A Venn diagram has 10 in A only, 15 in B only and 7 in both. How many are in A ∪ B?

Answer: _____ Match? ☐ Yes ☐ No

5

How many subsets of {1, ..., 5} contain the element 1?

Answer: _____ Match? ☐ Yes ☐ No

6

U = {1, ..., 10}, A = {3, 4, 5, 7, 8}, B = {1, 4, 9, 10}. Find (A ∪ B)'.

Answer: _____ Match? ☐ Yes ☐ No

Set Theory · Partner Check 1

A

Name: _____ Partner's name: _____ Date: _____

Directions: Work alone on your own problems. Partner B has different problems with the same answers. After each problem, compare answers; if they differ, find the mistake together.
Answer conventions: sets in roster form with elements in increasing order, ∅ for the empty set; truth columns as T/F strings in standard row order (TT, TF, FT, FF; with r: TTT, TTF, ..., FFF); fractions in lowest terms; ordered pairs as (x, y).

1

$A = \{1, 2, 3, 5, 7\}$, $B = \{4, 5, 6, 7, 9\}$. Find $A - B$.

Answer: _____ Match? ☐ Yes ☐ No

2

$|A| = 11$, $|B| = 28$, $|A \cap B| = 4$. Find $|A \cup B|$.

Answer: _____ Match? ☐ Yes ☐ No

3

$|A| = 12$, $|B| = 22$, $|A \cap B| = 6$. Find $|A \cup B|$.

Answer: _____ Match? ☐ Yes ☐ No

4

How many elements does the power set of a 1-element set have?

Answer: _____ Match? ☐ Yes ☐ No

5

How many elements does the power set of a 5-element set have?

Answer: _____ Match? ☐ Yes ☐ No

6

$A = \{2, 4, 5, 7, 8\}$, $B = \{2, 6, 7, 8, 10\}$. Find $A - B$.

Answer: _____ Match? ☐ Yes ☐ No

Set Theory · Partner Check 1

B

Name: _____ Partner's name: _____ Date: _____

Directions: Work alone on your own problems. Partner A has different problems with the same answers. After each problem, compare answers; if they differ, find the mistake together.
Answer conventions: sets in roster form with elements in increasing order, ∅ for the empty set; truth columns as T/F strings in standard row order (TT, TF, FT, FF; with r: TTT, TTF, ..., FFF); fractions in lowest terms; ordered pairs as (x, y).

1

U = {1, ..., 10}, A = {4, 5, 7, 9, 10}, B = {5, 6, 8, 9}. Find (A ∪ B)'.

Answer: _____ Match? ☐ Yes ☐ No

2

A Venn diagram has 13 in A only, 18 in B only and 4 in both. How many are in A ∪ B?

Answer: _____ Match? ☐ Yes ☐ No

3

A Venn diagram has 15 in A only, 9 in B only and 4 in both. How many are in A ∪ B?

Answer: _____ Match? ☐ Yes ☐ No

4

How many subsets of {1, ..., 2} contain the element 1?

Answer: _____ Match? ☐ Yes ☐ No

5

How many subsets of {1, ..., 6} contain the element 1?

Answer: _____ Match? ☐ Yes ☐ No

6

U = {1, ..., 10}, A = {2, 6, 8, 9, 10}, B = {1, 3, 6, 7}. Find (A ∪ B)'.

Answer: _____ Match? ☐ Yes ☐ No