Properties of Relations · Partner Check 2

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 partition of a set has blocks of sizes 2, 1, 2. How many ordered pairs are in the induced relation?

Answer: _____ Match? ☐ Yes ☐ No

2

Congruence mod 5 on {0, 1, ..., 12}. Find [4].

Answer: _____ Match? ☐ Yes ☐ No

3

How many ordered pairs are in "a < b" on {1, ..., 5}?

Answer: _____ Match? ☐ Yes ☐ No

4

Congruence mod 4 on {0, 1, ..., 12}. Find [3].

Answer: _____ Match? ☐ Yes ☐ No

5

How many reflexive relations are there on a 3-element set?

Answer: _____ Match? ☐ Yes ☐ No

6

A partition of a set has blocks of sizes 3, 2. How many ordered pairs are in the induced relation?

Answer: _____ Match? ☐ Yes ☐ No

Properties of Relations · Partner Check 2

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

A partition of a set has blocks of sizes 1, 2, 2. How many ordered pairs are in the induced relation?

Answer: _____ Match? ☐ Yes ☐ No

2

On {0, ..., 12}, a R b ⟺ a and b have the same remainder mod 5. List all b with 4 R b.

Answer: _____ Match? ☐ Yes ☐ No

3

How many ordered pairs are in "a > b" on {1, ..., 5}?

Answer: _____ Match? ☐ Yes ☐ No

4

On {0, ..., 12}, a R b ⟺ a and b have the same remainder mod 4. List all b with 3 R b.

Answer: _____ Match? ☐ Yes ☐ No

5

How many symmetric relations are there on a 3-element set?

Answer: _____ Match? ☐ Yes ☐ No

6

A partition of a set has blocks of sizes 2, 3. How many ordered pairs are in the induced relation?

Answer: _____ Match? ☐ Yes ☐ No

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How many ordered pairs are in "a < b" on {1, ..., 5}?

Answer: _____ Match? ☐ Yes ☐ No

4

Congruence mod 4 on {0, 1, ..., 12}. Find [4].

Answer: _____ Match? ☐ Yes ☐ No

5

A partition of a set has blocks of sizes 1, 2. How many ordered pairs are in the induced relation?

Answer: _____ Match? ☐ Yes ☐ No

6

Congruence mod 5 on {0, 1, ..., 12}. Find [0].

Answer: _____ Match? ☐ Yes ☐ No

Properties of Relations · Partner Check 2

B

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

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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).

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A partition of a set has blocks of sizes 2, 4, 1. How many ordered pairs are in the induced relation?

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How many ordered pairs are in "a > b" on {1, ..., 5}?

Answer: _____ Match? ☐ Yes ☐ No

4

On {0, ..., 12}, a R b ⟺ a and b have the same remainder mod 4. List all b with 0 R b.

Answer: _____ Match? ☐ Yes ☐ No

5

A partition of a set has blocks of sizes 2, 1. How many ordered pairs are in the induced relation?

Answer: _____ Match? ☐ Yes ☐ No

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On {0, ..., 12}, a R b ⟺ a and b have the same remainder mod 5. List all b with 0 R b.

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3

How many ordered pairs are in "a < b" on {1, ..., 3}?

Answer: _____ Match? ☐ Yes ☐ No

4

Congruence mod 3 on {0, 1, ..., 12}. Find [1].

Answer: _____ Match? ☐ Yes ☐ No

5

How many reflexive relations are there on a 3-element set?

Answer: _____ Match? ☐ Yes ☐ No

6

A partition of a set has blocks of sizes 2, 1. How many ordered pairs are in the induced relation?

Answer: _____ Match? ☐ Yes ☐ No

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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.
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How many symmetric relations are there on a 3-element set?

Answer: _____ Match? ☐ Yes ☐ No

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A partition of a set has blocks of sizes 1, 2. How many ordered pairs are in the induced relation?

Answer: _____ Match? ☐ Yes ☐ No