

The number of functions

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1) $A = \{a, b, c, d, e\}$ and $B = \{x, y, z\}$. Then the number of surjections that can be defined from the set A to the set B is

(????? $A = \{a, b, c, d, e\}$? ??? ?????? $B = \{x, y, z\}$?? ??? ??? ???????? ????? ?????? ??????)

- A) 0
- B) 15
- C) 150
- D) 200

2) $A = \{1, 2, 3, 4\}$ and $B = \{1, 2, 3, 4\}$. Then the number of bijective functions from A to B is

($A = \{?, ?, ?, ?\}$? ??? $B = \{?, ?, ?, ?\}$?? ??? ??? ?????-????????? ????? ?????? ??????)

- A) 4
- B) 16
- C) 20
- D) 24

3) $A = \{1, 2, 3, 4\}$ and $B = \{a, b, c\}$. Then the number of functions that can be defined from A to B is

(????? $A = \{?, ?, ?, ?\}$? ??? ?????? $B = \{?, ?, ?\}$?? ??? ??? ????? ?????? ??????)

- A) 21
- B) 81
- C) 54

D) 99

4) $A = \{1, 2, 3, 4\}$ and $B = \{1, 2, 3, 4\}$. Then the number of functions that can be defined from A to B is

(????? $A = \{?, ?, ?, ?\}$? ??? ?????? $B = \{?, ?, ?, ?\}$?? ??? ??? ????? ?????? ??????)

A) 220

B) 160

C) 292

D) 256

5) $A = \{1, 2, 3, 4\}$ and $B = \{1, 2, 3, 4\}$. Then the number of surjections that can be defined from the set A to the set B is

(????? $A = \{?, ?, ?, ?\}$? ??? ?????? $B = \{?, ?, ?, ?\}$?? ??? ??? ?????????? ????? ??????? ??????)

A) 16

B) 9

C) 12

D) 24

6) $A = \{1, 2, 3, 4\}$ and $B = \{1, 2, 3, 4, 5\}$. Then the number of surjections that can be defined from the set A to the set B is

(????? $A = \{?, ?, ?, ?\}$? ??? ?????? $B = \{?, ?, ?, ?, ?\}$?? ??? ??? ?????????? ????? ??????? ??????)

A) 20

B) 15

C) 0

D) 41

7) $A = \{1, 2, 3, 4, 5\}$ and $B = \{1, 2, 3, 4, 5\}$. Then the number of functions that can be defined from A to B is

(????? $A = \{?, ?, ?, ?, ?\}$? ??? ?????? $B = \{?, ?, ?, ?, ?\}$?? ??? ??? ?????? ??????)

- A) 4120
- B) 4025
- C) 3125
- D) 625

8) $A = \{1, 2, 3, 4, 5\}$ and $B = \{1, 2, 3, 4, 6\}$. Then the number of surjections that can be defined from the set A to the set B is

(????? $A = \{?, ?, ?, ?, ?\}$? ??? ?????? $B = \{?, ?, ?, ?, 6\}$?? ??? ??? ?????? ?????? ??????)

- A) 1
- B) 5
- C) 120
- D) 25

9) $A = \{1, 2, 3, 4\}$ and $B = \{1, 2, 3, 4, 5, 6\}$. Then the number of injective functions that can be defined from A to B is

(????? $A = \{?, ?, ?, ?\}$? ??? ?????? $B = \{?, ?, ?, ?, 5, ?\}$?? ??? ??? ?????? ?????? ??????)

- A) 24
- B) 256
- C) 720
- D) 360

10) $A = \{1, 2, 3, 4, 5\}$ and $B = \{1, 2\}$. Then the number of surjections that can be defined from the set A to the set B is

(????? $A = \{?, ?, ?, ?, ?\}$? ??? ?????? $B = \{?, ?\}$?? ??? ??? ???????? ????? ??????? ???????)

A) 25

B) 30

C) 10

D) 20

Answers:

?) C ?) D ?) B ?) D ?) D ?) C ?) C ?) C ?) D ??) B

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