Started on	Tuesday, 6 July 2021, 10:09 PM
State	Finished
Completed on	Tuesday, 6 July 2021, 10:17 PM
Time taken	8 mins 30 secs
Grade	**10.00** out of 10.00 (**100**%)

Question **1**

Correct

Mark 1.00 out of 1.00

8220681

Let A, B be sets. Find the set A if A-B={1, 3, 5}, B-A={4, 6, 8}, $A \cap B$ ={0, 2}.

Select one:

- a. A={2, 4, 6, 8}
- b. A={1, 3, 4, 5, 6, 8}
- c. A={0, 2, 4, 6, 8}
- d. A={0, 1, 2, 3, 5} ✔

Question **2**

Correct

Mark 1.00 out of 1.00

8220681

Which one of the following transformation steps is FALSE?

$$A \cap (A \cup B)$$
$$= (A \cap A) \cup (A \cap B) \ \ (\text{Step } 1)$$
$$= A \cup (A \cap B) \ \ (\text{Step } 2)$$
$$= A \cap B \ \ (\text{Step } 3)$$

(A, B are 2 arbitrary sets)

Select one:

- a. Step 1
- b. Step 3 ✔
- c. Step 2

Question **3**

Correct

Mark 1.00 out of 1.00

8220681

How many elements does the Cartesian product of a set A with 10 elements and a set B with 20 elements have?

Answer: 200 ✔

Question **4**

Correct

Mark 1.00 out of 1.00

8220681

Let A be a set with 5 elements, B be a set with 8 elements. Assume that A and B have 3 elements in common. How many elements does the set A-B contain?

Answer: 2 ✔

Question **5**

Correct

Mark 1.00 out of 1.00

8220681

In the following membership table, which column is FALSE?

A	B	Column 1 $\overline{A}$	Column 2 $\overline{B}$	Column 3 $A \cap B$
1	1	0	0	1
1	0	0	1	1
0	1	1	0	1
0	0	1	1	0

Select one:

- a. Column 1
- b. Column 2
- c. Column 3 ✔

Question **6**

Correct

Mark 1.00 out of 1.00

8220681

How many members of the power set of {a, b, c} are there?

Answer: 8 ✔

Question **7**

Correct

Mark 1.00 out of 1.00

8220681

In the following membership table, which column is FALSE?

A	$\varnothing$	Column 1 $\overline{\varnothing}$	Column 2 $A \cap \varnothing$	Column 3 $\overline{A}$
1	0	1	0	0
0	0	1	1	1

Select one:

- a. Column 1
- b. Column 2 ✔
- c. Column 3

Question **8**

Correct

Mark 1.00 out of 1.00

8220681

Find a pair of EQUAL sets among the sets given below.

A= {a, b, {a}, {b}, {b}}

B={a, b, a, {b}, b}

C={{a}, b, a, b, b}

D={{a}, b, a, {b}, b}

Select one:

- a. A, C
- b. A, D ✔
- c. B, C

Question **9**

Correct

Mark 1.00 out of 1.00

8220681

Let A, B be sets. Find the set A if A-B={a, b, c}, B-A={d, e, f}, $A \cup B$ ={a, b, c, d, e, f}.

(Hint: drawing the Venn diagram may help you)

Select one:

- a. A={a, b, c} ✔
- b. A={d, e, f}
- c. A={a, b, c, d, e, f}
- d. A={a, b, c, d, e}

Question **10**

Correct

Mark 1.00 out of 1.00

8220681

Let A, B be two arbitrary sets. Which of the following transformation steps is FALSE?

$$
\begin{aligned}
&A \cup (A \cap B) \\
&= (A \cup A) \cup (A \cup B) \ \text{(Step 1)} \\
&= A \cup (A \cup B) \ \text{(Step 2)} \\
&= (A \cup A) \cup B \ \text{(Step 3)} \\
&= A \cup B
\end{aligned}
$$

Select one:

- a. Step 1 ✔
- b. Step 2
- c. Step 3

◄ Week3-Quiz Jump to... Week5-Quiz ►