

PRENSICA, JOSHUA QUIZ 1 PART 1

JOSHUA PRENSICA BIT 1-2

$$1. A \cup B \cup C \cup D = U = \{1, 2, 3, 4, 5, 6, 7, 8\}$$

$$\{1, 2, 4, 6, 7\} \cup \{3, 4, 5, 6, 8\} \cup \{3, 5, 4, 2, 8\} \cup \{4, 5, 6, 7, 8\} = \{1, 2, 3, 4, 5, 6, 7, 8\}$$

$$\{1, 2, 4, 6, 7\} \cup \{3, 4, 5, 6, 8\} = \{1, 2, 3, 4, 5, 6, 7, 8\}$$

$$(\{1, 2, 3, 4, 5, 6, 7, 8\} \cup \{3, 5, 4, 2, 8\}) = \{1, 2, 3, 4, 5, 6, 7, 8\}$$

$$\rightarrow (\{1, 2, 3, 4, 5, 6, 7, 8\} \cup \{4, 5, 6, 7, 8\}) = \{1, 2, 3, 4, 5, 6, 7, 8\}$$

$$\boxed{\{1, 2, 3, 4, 5, 6, 7, 8\} = U = \{1, 2, 3, 4, 5, 6, 7, 8\}}$$

DETERMINA PREMISAS DISEÑO 1-2. DISEÑO # 2

$A = \{1, 2, 4, 6, 7\}$ $C = \{3, 5, 9, 2, 8\}$
 $B = \{3, 4, 5, 6, 8\}$ $D = \{1, 5, 6, 7, 8\}$
 $U = \{1, 2, 3, 4, 5, 6, 7, 8\}$

ANSWER:

$(\overline{A} \cap \overline{B} \cap \overline{C}) \cup (\overline{A} \cap \overline{B} \cap C) \cup (\overline{A} \cap B \cap \overline{C}) \cup (\overline{A} \cap B \cap C) \cup (A \cap \overline{B} \cap \overline{C}) \cup (A \cap \overline{B} \cap C)$

1. $\overline{A} \cap \overline{B} \cap \overline{C}$
 $(\{3, 5, 8\} \cap \{1, 2, 7\}) = \{\} \cap \{1, 6, 7\} = \{\}$
 $\{\} \cap \{\} = \{\}$

2. $\overline{A} \cap \overline{B} \cap C$
 $(\{3, 5, 8\} \cap \{1, 2, 7\}) = \{\} \cap \{3, 4, 5, 6, 7, 8\} = \{\}$
 $\{\} \cap \{\} = \{\}$

3. $\overline{A} \cap B \cap \overline{C}$
 $(\{3, 5, 8\} \cap \{3, 4, 5, 6, 8\}) = \{3, 5, 8\} \cap \{1, 6, 7\} = \{\}$
 $\{3, 5, 8\} \cap \{\} = \{\}$

4. $\overline{A} \cap B \cap C$
 $(\{3, 5, 8\} \cap \{3, 4, 5, 6, 8\}) = \{3, 5, 8\} \cap \{3, 4, 5, 6, 7, 8\} = \{3, 5, 8\}$

5. $A \cap \overline{B} \cap \overline{C}$
 $(\{1, 2, 4, 6, 7\} \cap \{3, 4, 5, 6, 8\}) = \{4, 6, 7\} \cap \{1, 6, 7\} = \{6, 7\}$

6. $A \cap \overline{B} \cap C$
 $(\{1, 2, 4, 6, 7\} \cap \{1, 2, 7\}) = \{1, 2, 7\} \cap \{1, 6, 7\} = \{1, 7\}$

7. $A \cap \overline{B} \cap C$
 $(\{1, 2, 4, 6, 7\} \cap \{1, 2, 7\}) = \{1, 2, 7\} \cap \{3, 4, 5, 6, 7, 8\} = \{7\}$

1 a 2
 $\{\} \cup \{\} = \{\}$

2 a 3
 $\{\} \cup \{\} = \{\}$

3 a 4
 $\{3, 5, 8\} \cup \{3, 5, 8\} = \{3, 5, 8\}$

4 a 5
 $\{3, 5, 8\} \cup \{6, 7\} = \{3, 5, 8, 6, 7\}$

5 a 6
 $\{3, 5, 8, 6, 7\} \cup \{1, 7\} = \{3, 5, 8, 6, 1, 7\}$

6 a 7
 $\{3, 5, 8, 6, 1, 7\} \cup \{2\} = \{3, 5, 8, 6, 1, 7, 2\}$

$\overline{A} \cup \overline{B} \cup \overline{C}$
 $(\{3, 5, 8\} \cup \{1, 2, 7\}) = \{3, 5, 8, 1, 2, 7\} \cup \{1, 6, 7\} = \{3, 5, 8, 1, 2, 7, 6\}$

EQUAL

PRENSICA, JOSHUA QUIZ 1 PART 3

JOSHUA PRENSICA BIT 1-2 QUIZ #1

2. $(A \cap B \cap C) \cup (A \cap B \cap \bar{C}) \cup (\bar{A} \cap B \cap C) \cup (\bar{A} \cap B \cap \bar{C}) \cup (\bar{A} \cap \bar{B} \cap C) \cup (A \cap \bar{B} \cap C) \cup (A \cap \bar{B} \cap \bar{C}) = A \cup B \cup C$
ANSWER:

1. $A \cap B \cap \bar{C}$

$$\{1, 2, 4, 6, 7\} \cap \{3, 4, 5, 6, 8\} \cap \{1, 4, 7\} = \{6\}$$

$$= \{9, 4\}$$

2. $A \cap \bar{B} \cap \bar{C}$

$$\{1, 2, 4, 6, 7\} \cap \{1, 2, 7\} \cap \{1, 4, 7\} = \{1, 7\}$$

$$= \{1, 2, 7\}$$

3. $\bar{A} \cap \bar{B} \cap \bar{C}$

$$\{3, 5, 8\} \cap \{1, 2, 7\} \cap \{1, 4, 7\} = \emptyset$$

$$= \emptyset$$

4. $\bar{A} \cap \bar{B} \cap C$

$$\{3, 5, 8\} \cap \{1, 2, 7\} \cap \{3, 4, 5, 6, 8\} = \{3\}$$

$$= \{3\}$$

5. $\bar{A} \cap B \cap C$

$$\{3, 5, 8\} \cap \{3, 4, 5, 6, 8\} \cap \{3, 4, 5, 6, 8\} = \{3, 5, 8\}$$

$$= \{3, 5, 8\}$$

6. $A \cap B \cap C$

$$\{1, 2, 4, 6, 7\} \cap \{3, 4, 5, 6, 8\} \cap \{3, 4, 5, 6, 8\} = \{4\}$$

$$= \{4, 6\}$$

7. $A \cap \bar{B} \cap C$

$$\{1, 2, 4, 6, 7\} \cap \{1, 2, 7\} \cap \{3, 4, 5, 6, 8\} = \{2\}$$

$$= \{1, 2, 7\}$$

$A \cup B \cup C$

$$\{1, 2, 4, 6, 7\} \cup \{1, 2, 7\} \cup \{3, 4, 5, 6, 8\} = \{1, 2, 4, 6, 7, 3, 5, 8\}$$

$$= \{1, 2, 4, 6, 7\}$$

$$\{6, 1, 7, 3, 5, 8, 4, 2\} = \{1, 2, 4, 6, 7, 3, 5, 8\}$$

EQUAL

* 1 4 2

$$\{4\} \cup \{1, 7\} = \{4, 1, 7\}$$

* 2 4 3

$$\{6, 2, 7\} \cup \{3\} = \{6, 1, 7\}$$

* 3 4 4

$$\{6, 2, 7\} \cup \{5\} = \{6, 1, 7\}$$

* 4 4 5

$$\{6, 1, 7\} \cup \{3, 5, 8\} = \{6, 1, 7, 3, 5, 8\}$$

* 5 4 6

$$\{6, 1, 7, 3, 5, 8\} \cup \{4\}$$

$$= \{6, 1, 7, 3, 5, 8, 4\}$$

* 6 4 7

$$\{6, 1, 7, 3, 5, 8, 4\} \cup \{2\}$$

$$= \{6, 1, 7, 3, 5, 8, 4, 2\}$$

[illegible]

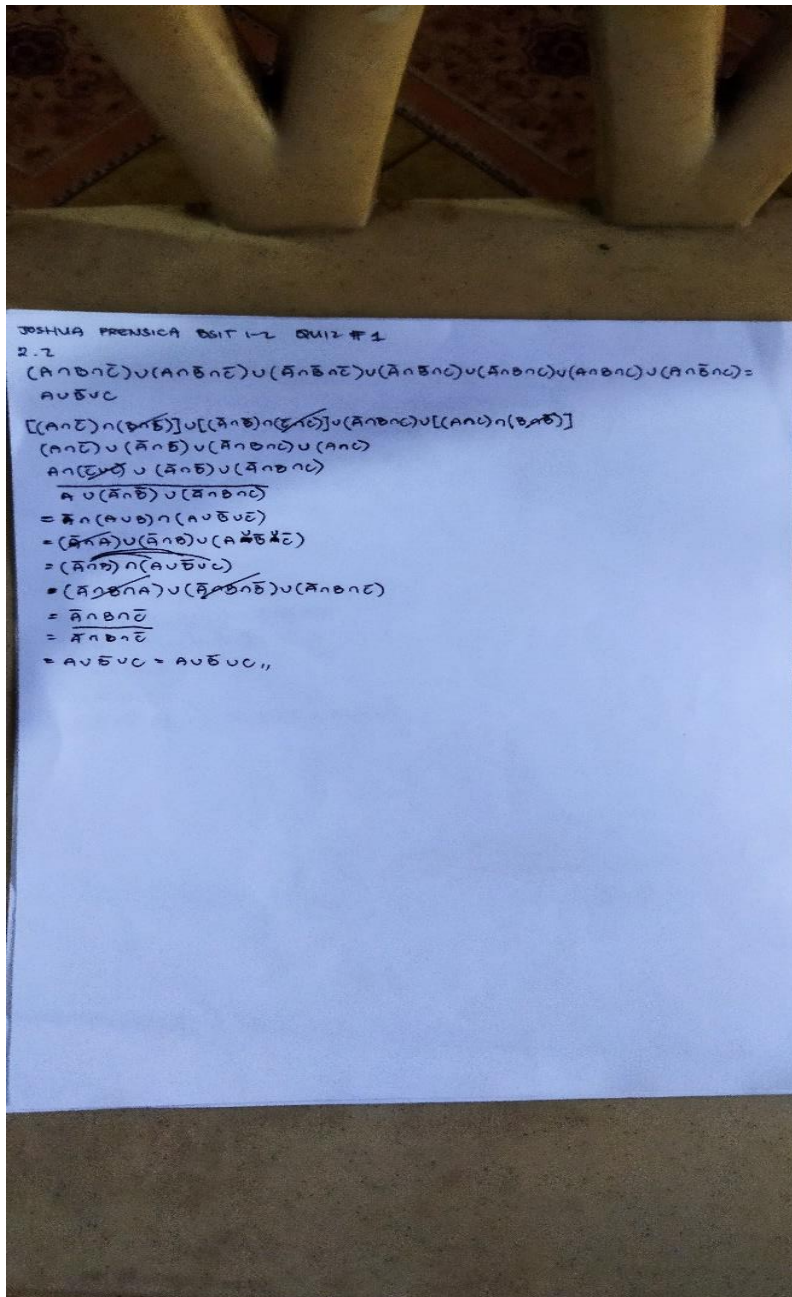
PRENSICA, JOSHUA QUIZ 1 PART 5

JOSHUA PRENSICA QUIZ 1-2 QUIZ #1

2.1

$$\begin{aligned}
 & (\overline{A} \cap \overline{B} \cap \overline{C}) \cup (\overline{A} \cap \overline{B} \cap C) \cup (\overline{A} \cap B \cap \overline{C}) \cup (\overline{A} \cap B \cap C) \cup (A \cap \overline{B} \cap \overline{C}) \cup (A \cap \overline{B} \cap C) \cup (A \cap B \cap \overline{C}) \cup (A \cap B \cap C) = \overline{A} \cup \overline{B} \cup \overline{C} \\
 & [(\overline{A} \cap \overline{B}) \cap (\overline{C} \cup C)] \cup [(\overline{A} \cap B) \cap (\overline{C} \cup C)] \cup [(A \cap \overline{B}) \cap (\overline{C} \cup C)] \cup [(A \cap B) \cap (\overline{C} \cup C)] \\
 & (\overline{A} \cap \overline{B}) \cap (\overline{C} \cup C) \cup (\overline{A} \cap B) \cap (\overline{C} \cup C) \cup (A \cap \overline{B}) \cap (\overline{C} \cup C) \cup (A \cap B) \cap (\overline{C} \cup C) \\
 & (\overline{A} \cap \overline{B}) \cup (\overline{A} \cap B) \cup (A \cap \overline{B}) \cup (A \cap B) \\
 & [\overline{A} \cap (\overline{B} \cup B)] \cup (A \cap \overline{B}) \cup (A \cap B) \\
 & \overline{A} \cap (\overline{B} \cup B) \cup (A \cap \overline{B}) \cup (A \cap B) \\
 & \overline{A} \cup (A \cap \overline{B}) \cup (A \cap B) \\
 & A \cap (\overline{B} \cup B) \cap (\overline{A} \cup \overline{B} \cup \overline{C}) \\
 & A \cap (\overline{B} \cup B) \cap (\overline{A} \cup \overline{B} \cup \overline{C}) \\
 & = (A \cap \overline{A}) \cup (A \cap \overline{B}) \cup (A \cap \overline{C}) \\
 & = \overline{A} \cap \overline{B} \cup \overline{A} \cap \overline{C} \\
 & = \overline{A} \cap (\overline{B} \cup \overline{C}) \\
 & = \overline{A} \cap \overline{B} \cup \overline{A} \cap \overline{C} \rightarrow \overline{A} \cap \overline{B} \cup \overline{A} \cap \overline{C} = \overline{A} \cap \overline{B} \cup \overline{A} \cap \overline{C} //
 \end{aligned}$$

PRENSICA, JOSHUA QUIZ 1 PART 6



JOSHUA PREUSICA SSIT 1-2 QUIZ # 1

2. $(A \vee B) \wedge C \vee (A \wedge B) \wedge C \vee (A \vee B) \wedge C \vee (A \wedge B) \wedge C \vee (A \vee B) \wedge C \vee (A \wedge B) \wedge C =$
 $C \vee C$
 $[(A \vee B) \wedge C] \vee [(A \vee B) \wedge C] \vee [(A \vee B) \wedge C] \vee [(A \vee B) \wedge C] \vee [(A \vee B) \wedge C] \vee [(A \vee B) \wedge C]$
 $[(A \vee B) \wedge C] \vee [(A \vee B) \wedge C]$
 $= (C \vee C) \vee (A \vee B)$
 $(C \vee C) \vee (A \vee B)$
 $(C \vee C) \vee C$
 $C \vee C$
 $(C \vee C) \vee (C \vee C)$
 $C \vee C$
 $= C \vee C = C \vee C$

[illegible]
$$= (\bar{C} \cap \bar{D}) \cup (\bar{A} \cap C) \cup (A \cap C)$$
$$(C \cap D) \cup E$$
$$\underline{(\overline{E \cap C}) \cup (\overline{C} \cap D)}$$

END

$$= C \cup \bar{D} = C \cup \bar{D}_{II}$$