

Chapter 3 Classwork

Exercise 3-7

Instructions: Use the letters below as variables, then turn the claims below into **symbolic form**.

P = Parsons signs the papers.

Q = Quincy goes (or will go) to jail.

R = Rachel files (or will file) an appeal.

1) If Parsons signs the papers then Quincy will go to jail, and Rachel will file an appeal.

2) If Parsons signs the papers, then Quincy will go to jail and Rachel will file an appeal.

3) If Parsons signs the papers and Quincy goes to jail then Rachel will file an appeal.

4) Parsons signs the papers and if Quincy goes to jail then Rachel will file an appeal.

5) If Parsons signs the papers then if Quincy goes to jail Rachel will file an appeal.

Exercise 3-8

Instructions: Creating your own variables, turn the passages below into **symbolic form**. Also, identify which of the **9 argument forms** or **deductive fallacies** applies to each.

1) If you felt good, you would look good too. You don't look good. So you must not feel good.

2) For my next car, I want either a Corvette or a Maserati. I don't think I want a Maserati. Therefore, I'll buy a Corvette.

3) If I eat peanuts today, I will add hot sauce. I didn't eat any Peanuts, which means I didn't add any hot sauce.

4) Your sister is smart. She's also good at basketball. So your sister is smart and good at basketball.

5) I binged the whole anime *Attack on Titan*. And I knew that if I started watching it, I would binge it. Thus, I started watching *Attack on Titan*.

Exercise 3-9

Instructions: Create an example of modus ponens in natural language. Then, modify the argument to turn it into the affirming the consequent fallacy. Create an example of modus tollens in natural language. Then, modify the argument to turn into the denying the antecedent fallacy.

Exercise 3-10

Instructions: Construct **proofs** for each of the following arguments, using only the following **4 argument forms: MP, MT, DA, or CA.**

1)

1. $\sim S$

2. $S \vee U$

3. $W \rightarrow S \quad \therefore \sim W$

2)

1. $A \rightarrow B$
2. $\sim B$
3. $\sim A \rightarrow \sim D$
4. $D \vee E \quad \therefore E$

3)

1. $(A \vee B) \vee (B \rightarrow C)$
2. $(A \vee B) \rightarrow (\sim H \rightarrow \sim J)$
3. $C \rightarrow \sim D$
4. $G \rightarrow B$
5. $\sim(\sim H \rightarrow \sim J) \quad \therefore G \rightarrow \sim D$

Exercise 3-11

Instructions: Construct **proofs** for each of the following arguments, using only the following **5 argument forms: ADD, SIMP, CONJ, CD, or DD.**

1)

1. $A \rightarrow B$
2. $C \rightarrow D$
3. $\sim B \vee \sim D \quad \therefore \sim A \vee \sim C$

2)

1. A
2. $(A \rightarrow B) \& (C \rightarrow D) \quad \therefore B \vee D$

3)

1. B
2. $A \quad \therefore (A \vee D) \& (B \vee C)$

Exercise 3-12

Instructions: Construct **proofs** for each of the following arguments, using the **9 valid argument forms**.

1)

1. $R \rightarrow P$
2. $Q \rightarrow R \quad \therefore Q \rightarrow P$

2)

1. $R \& S$
2. $S \rightarrow P \quad \therefore P$

3)

1. $(P \vee Q) \rightarrow R$
2. $Q \quad \therefore R$

4)

1. $\sim P$
2. $\sim (R \& S) \vee Q$
3. $\sim P \rightarrow \sim Q \quad \therefore \sim (R \& S)$

5)

1. $P \rightarrow \sim (Q \& T)$
2. $S \rightarrow (Q \& T)$
3. $P \quad \therefore \sim S$

6)

1. $(T \vee M) \rightarrow \sim Q$
2. $(P \rightarrow Q) \& (R \rightarrow S)$
3. $T \quad \therefore \sim P$

7)

1. $\sim C$
2. $B \rightarrow C$
3. $B \vee A$
4. $A \rightarrow E \quad \therefore E$

8)

1. I
2. $I \rightarrow (D \vee S)$
3. $S \rightarrow L$
4. $\sim L \quad \therefore D$

9)

1. $(D \vee A) \rightarrow \sim C$
2. $(D \& B) \rightarrow A$
3. $D \& \sim B \quad \therefore \sim C \vee A$

10)

1. $B \vee (D \& E)$
2. $(G \vee C) \rightarrow \sim B$
3. $(D \vee H) \rightarrow J$
4. G $\quad \therefore J$