

**Worksheet Exercise 3.6.**

Name \_\_\_\_\_

## Checking Equivalences

Class \_\_\_\_\_ Date \_\_\_\_\_

**Part A.** Symbolize each of the following inferences, but do not change the original arguments. If an inference is valid, give the name of the equivalence used; otherwise, just say it is invalid.

0. Some vegetables are tomatoes ∴ Some tomatoes are vegetables	some V are T some T are V	Conv.
1. All apples are fruits ∴ All fruits are apples	all A are F all F are A	Invalid
2. Some bananas are vegetables ∴ Some non-bananas are non-vegetables		
3. No peaches are blueberries ∴ All peaches are non-blueberries		
4. All oranges are fruits ∴ All non-fruits are non-oranges		
5. Not some bananas are green ∴ All bananas are non-green		
6. All peaches are non-blue ∴ Not some peaches are blue		
7. Not no watermelons are fruits ∴ All watermelons are fruits		
8. No tomatoes are fruits ∴ All non-tomatoes are fruits		
9. Some pears are not non-apples ∴ Some pears are apples		
10. Some non-tomatoes are non-fruits ∴ Some tomatoes are not non-fruits		
11. All apples are not tomatoes ∴ All non-tomatoes are not non-apples		
12. Some oranges are non-vegetables ∴ Some non-vegetables are oranges		
13. All strawberries are fruits ∴ All non-strawberries are non-fruits		
14. All peaches are non-apples ∴ All apples are non-peaches		
15. No mangos are non-fruits ∴ All non-mangos are non-fruits		
16. Not all cherries are apples ∴ Some cherries are non-apples		
17. Some apples are non-vegetables ∴ Some vegetables are non-apples		
18. Some non-apples are vegetables ∴ Some vegetables are non-apples		
19. No non-oranges are non-vegetables ∴ No vegetables are oranges		
20. All non-blueberries are non-fruits ∴ All fruits are blueberries		