

**Worksheet Exercise 1.6.A.**

Name \_\_\_\_\_

## Testing Validity

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

**Part A.** Use the possible world test to determine whether the following arguments are valid. In each test give an itemized description of the relevant items such that: (a) for the invalid arguments, the description must show the premisses to be true and the conclusion to be false, and (b) for the valid arguments, the description must show that having true premisses means that you can't have a false conclusion (annotate "= F?" with "can't"). Use the given capital letters to make the descriptions.

	poss. values	possible world description:					
(1) Argument is <u>invalid</u>							
All Democrats want gun control.	= T ? <u>yes</u>	X1	X2	X3	X4	X5	X6
George wants gun control.	= T ? <u>yes</u>	D	D	D	R	R	R
So, George must be a Democrat.	= F ? <u>yes</u>	C	C	C	F	F	C
							george

(D = Democrat, C = gun control, F = gun freedom, R = Republican)

	poss. values	possible world description:					
(2) Argument is _____							
All ants are blue.	= T ? _____	X1	X2	X3	X4	X5	X6
No blue things are square.	= T ? _____						
So, no ants are square.	= F ? _____						

(A = ant, B = blue, S = square, R = round)

	poss. values	possible world description:					
(3) Argument is _____							
All Democrats want gun control.	= T ? _____	X1	X2	X3	X4	X5	X6
George is not a Democrat.	= T ? _____						
So, he doesn't want gun control.	= F ? _____						

(D = Democrat, C = gun control, F = gun freedom, R = Republican)

	poss. values	possible world description:					
(4) Argument is _____							
No ants are blue.	= T ? _____	X1	X2	X3	X4	X5	X6
All blue things are square.	= T ? _____						
So, no ants are square.	= F ? _____						

(A = ant, B = blue, S = square, G = green)

	poss. values	possible world description:					
(5) Argument is _____							
Some ants are round.	= T ? _____	X1	X2	X3	X4	X5	X6
Some ants are blue.	= T ? _____						
So, some round things are blue.	= F ? _____						

(A = ant, R = round, B = blue, S = square, G = green)

	poss. values	possible world description:					
(6) Argument is _____							
No Democrats are bald.	= T ? _____	X1	X2	X3	X4	X5	X6
Some Democrats are tall.	= T ? _____						
So, some tall things are not bald.	= F ? _____						

(D = Democrat, B = bald, T = tall, H = has hair, R = Republican, S = short)