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.

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

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

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

Worksheet Exercise 1.6.A. Name _____________________________
Testing Validity Class ___________________________ Date ___________

(1) Argument is invalid poss. values possible world description:
All Democrats want gun control.
George wants gun control.
So, George must be a Democrat.
= T = yes
= T = yes
= F = yes
(D = Democrat, C = gun control, F = gun freedom, R = Republican)

(2) Argument is pos. values possible world description:
All ants are blue.
No blue things are square.
So, no ants are square.
= T = x1 x2 x3 x4 x5 x6
= T = x1 x2 x3 x4 x5 x6
= F = x1 x2 x3 x4 x5 x6
(A = ant, B = blue, S = square, R = round)

(3) Argument is pos. values possible world description:
All Democrats want gun control.
George is not a Democrat.
So, he doesn't want gun control.
= T = x1 x2 x3 x4 x5 x6
= T = x1 x2 x3 x4 x5 x6
= F = x1 x2 x3 x4 x5 x6
(D = Democrat, C = gun control, F = gun freedom, R = Republican)

(4) Argument is pos. values possible world description:
No ants are blue.
All blue things are square.
So, no ants are square.
= T = x1 x2 x3 x4 x5 x6
= T = x1 x2 x3 x4 x5 x6
= F = x1 x2 x3 x4 x5 x6
(A = ant, B = blue, S = square, G = green)

(5) Argument is pos. values possible world description:
Some ants are round.
Some ants are blue.
So, some round things are blue.
= T = x1 x2 x3 x4 x5 x6
= T = x1 x2 x3 x4 x5 x6
= F = x1 x2 x3 x4 x5 x6
(A = ant, R = round, B = blue, S = square, G = green)

(6) Argument is pos. values possible world description:
No Democrats are bald.
Some Democrats are tall.
So, some tall things are not bald.
= T = x1 x2 x3 x4 x5 x6
= T = x1 x2 x3 x4 x5 x6
= F = x1 x2 x3 x4 x5 x6
(D = Democrat, B = bald, T = tall, H = has hair, R = Republican, S = short)