A 2. `int x = 1, y = 0` $\sigma = \{a \mapsto \alpha_a, b \mapsto \alpha_b\}$ $\pi = true$

B 3. `if (a != 0)` $\sigma = \{a \mapsto \alpha_a, b \mapsto \alpha_b, x \mapsto 1, y \mapsto 0\}$ $\pi = true$

C 4. `y = 3+x` $\sigma = \{a \mapsto \alpha_a, b \mapsto \alpha_b, x \mapsto 1, y \mapsto 0\}$ $\pi = \alpha_a \neq 0$

D 8. `assert(x-y != 0)` $\sigma = \{a \mapsto \alpha_a, b \mapsto \alpha_b, x \mapsto 1, y \mapsto 0\}$ $\pi = \alpha_a = 0$

$1 - 0 = 0 \wedge \alpha_a = 0 \Longleftrightarrow false$ OK

E 5. `if (b == 0)` $\sigma = \{a \mapsto \alpha_a, b \mapsto \alpha_b, x \mapsto 1, y \mapsto 4\}$ $\pi = \alpha_a \neq 0$

F 6. `x = 2*(a+b)` $\sigma = \{a \mapsto \alpha_a, b \mapsto \alpha_b, x \mapsto 1, y \mapsto 4\}$ $\pi = \alpha_a \neq 0 \wedge \alpha_b = 0$

G 8. `assert(x-y != 0)` $\sigma = \{a \mapsto \alpha_a, b \mapsto \alpha_b, x \mapsto 1, y \mapsto 4\}$ $\pi = \alpha_a \neq 0 \wedge \alpha_b \neq 0$

$1 - 4 = 0 \wedge \alpha_a \neq 0 \wedge \alpha_b \neq 0 \Longleftrightarrow false$ OK

H 8. `assert(x-y != 0)` $\sigma = \{a \mapsto \alpha_a, b \mapsto \alpha_b, x \mapsto 2(\alpha_a + \alpha_b), y \mapsto 4\}$ $\pi = \alpha_a \neq 0 \wedge \alpha_b = 0$

$2(\alpha_a + \alpha_b) - 4 = 0 \wedge \alpha_a \neq 0 \wedge \alpha_b = 0$ if $\alpha_a = 2 \wedge \alpha_b = 0$ ERROR