/*
 * assignments.pdf
 *
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 *
 * This file contains solutions of exercises with assignments.
 *
 * I did not really know, how to describe the intermediate steps.
 */

1. (a)
before:
x == A
then:
x == 7*A + 5
therefore:
x = 7*x + 5

2. (b)
before:
x == A
y == B
then:
x == B – A
y == A
therefore:
x = y – x => x == B - A
and then
y = y – x => y == B – (B – A) == A

3. (a)
before:
x == B+1
y == (B + 1)*(B + 1) + A == B^2 + 2*B + 1 + A
then:
x == B
y == x^2 + A
therefore:
x = x – 1 => x == B + 1 – 1 = B
y = y – 2*x – 1 =>
y == B^2 + 2*B + 1 + A – 2*B – 1 == x^2 + A

4. (c)
x == A
y == B
x = 3*y + x => x == 3*B + A
y = 3*y - x => y == 3*B - (3*B + A) = -A
x = x + y => x == 3*B + A – A = 3*B

5. (b)
x – y == B => x == B + y
y == A => x == B + A
y = x – y => y == A + B – A = B
x = x – y => x == A + B – B = A

6. (a)
2*x + 4*y – 2*z > 4 (divide by 2 and add 1)
=> x + 2*y + 1 – z > 2 + 1
insert x into the inequality:
x = x + 2*y + 1 => x – z > 3
insert z into the inequality:
z = x - z => z > 3