Problems

3.12)

(a) x

(b) $2x-3$ and $4x+8$

(c) $2x-3 = 4x+8$

$-11 = 2x$

(d) $-\frac{11}{2} = x$

(e) $2\left(-\frac{11}{2}\right) - 3 = 4\left(-\frac{11}{2}\right) + 8$

$-11 - 3 = -22 + 8$

$-14 = -14$

3.13)

(a) $3x + 2 = s(7)$

(b) $3x = 33$

$x = 11$

3.14)

$x = 2(x-6) - 3$

$x = 2x - 12 - 3$

$15 = x$

3.15)

Pink pills: x

Green pills: $x+1$

The green pills cost 20 USD.

$14(2x+1) = 546$

$2x+1 = \frac{546}{14}$

$2x+1 = 39$

$2x = 38$

$x = 19$

Exercises

3.3.1)

$3x = 2x+3$

$x = 7$

3.3.2)

x is my age.

$$2(x+6) = 4x+6$$

$$2x+12 = 4x+6$$

$$6 = 2x$$

$$3 = x$$

My brothers age is $4x$. $4(3) = \boxed{12}$

3.3.3)

$$\frac{6x}{2} + 17 = (9-15+12) + 4x$$

$$3x + 17 = 6 + 4x$$

$$11 = x$$

3.3.4)

x: amount of Nickels

$$0.05x + 0.1(3x) = 36.05$$

$$0.05x + 0.3x = 36.05$$

$$0.35x = 36.05$$

$$x = \frac{36.05}{0.35} = \frac{3605}{35} = \frac{515}{5} = \boxed{103}$$

3.3.5)

$$\frac{x-9}{3} = 43$$

$$x - 9 = 129$$

$$x = 138$$

$$\frac{138-3}{9} = \frac{135}{9} = 15$$

3.3.6)

x : Nacimiento de Walter

$1994 - x$

$x - (1994 - x)$: Nacimiento de la abuela

$2x - 1994$

$$x + 2x - 1994 = 3838$$

$$3x = 3838 + 1994$$

$$3x = 5832$$

$$x = 1944$$

$1999 - 1944 = 55$ años

1994 Walter tenía 50 años y grandma 100 años.