

①

$$\begin{aligned} a, \quad 33 \cdot 9 + 67 \cdot 9 &= 9 \cdot (33 + 67) \\ &= 9 \cdot 100 \\ &= 900 \end{aligned}$$

b, Lavenetaan samannimisiksi.

$$3) \quad \frac{5}{7} = \frac{15}{21}$$

$$7) \quad \frac{2}{3} = \frac{14}{21}$$

$$V: \quad \frac{5}{7} > \frac{2}{3}$$

c, $|-23|$ tarkoittaa luvun
-23 itseisarvoa, eli etäisyyttä
nollasta. $|-23| = 23$

(2.)

$$a) \quad \overset{2)}{\frac{2}{3}} + \overset{3)}{\frac{1}{2}} - \frac{1}{6} = \frac{4}{6} + \frac{3}{6} - \frac{1}{6}$$

$$= \frac{6}{6} = \underline{\underline{1}}$$

$$b) \quad \frac{2}{3} \cdot \frac{4}{5} - \frac{7}{10} = \overset{2)}{\frac{8}{15}} - \overset{3)}{\frac{7}{10}} = \frac{16}{30} - \frac{21}{30}$$

$$= -\frac{5}{30} = \underline{\underline{-\frac{1}{6}}}$$

$$c) \quad 3 : \frac{5}{8} = \frac{3}{1} \cdot \frac{8}{5} = \frac{24}{5} = 4\frac{4}{5}$$

3.

a,

$$5x - 3 = -2x + 11$$

$$\parallel + 2x$$

$$7x - 3 = 11$$

$$\parallel + 3$$

$$7x = 14$$

$$\parallel : 7$$

$$x = 2$$

b,

$$3(2x - 4) = \frac{x}{2} - 1$$

$$6x - 12 = \frac{x}{2} - 1$$

$$\parallel \cdot 2$$

$$12x - 24 = x - 2$$

$$\parallel - x$$

$$11x - 24 = -2$$

$$\parallel + 24$$

$$11x = 22$$

$$\parallel : 11$$

$$x = \frac{22}{11}$$

$$x = 2$$

4.

a, $9x + 8 < 7x + 6$

$$\parallel - 7x$$

$$2x + 8 < 6$$

$$\parallel - 8$$

$$2x < 6 - 8$$

$$2x < -2$$

$$\parallel : 2$$

$$x < \frac{-2}{2}$$

$$x < -1$$

b, $3(x-7) > 6x - 3$

$$3x - 21 > 6x - 3$$

$$\parallel - 6x$$

$$3x - 21 - 6x > 6x - 3 - 6x$$

$$-3x - 21 > -3$$

$$\parallel + 21$$

$$-3x > -3 + 21$$

$$-3x > 18$$

$$\parallel : (-3) \quad !!!$$

$$x < \frac{18}{-3}$$

$$x < -6$$

5.

a,
$$\frac{x^4 \cdot x^3}{x^2} = \frac{x^7}{x^2} = x^5$$

b,
$$(4x^3)^2 = 4^2 \cdot x^6 = 16x^6$$

c,
$$2,532 \cdot 10^{-5}$$

$$= 0,00002532$$

$$(6.) \quad f(x) = 3x - 7$$

$$\begin{aligned} a, \quad f(-2) &= 3 \cdot (-2) - 7 \\ &= -6 - 7 \\ &= \underline{\underline{-13}} \end{aligned}$$

$$b, \quad f(x) = 0, \quad \text{kun}$$

$$3x - 7 = 0 \quad \parallel +7$$

$$3x = 7 \quad \parallel : 3$$

$$x = \underline{\underline{\frac{7}{3}}}$$

$$\left(\text{tai} \quad x = 2 \frac{1}{3} \right)$$

7.

$$5 \text{ senttiä} = 0,05 \text{ €}$$

$$a, \quad f(x) = 280 + 0,05x$$

$$b, \quad f(100) = 280 + 0,05 \cdot 100 \\ = 285$$

Kun kopioita otetaan kuukauden aikana 100 kpl, on kopiokoneen kokonaiskustannukset 285 €.

$$c, \quad 280 + 0,05x = 601,05 \quad \parallel -280$$

$$0,05x = 601,05 - 280$$

$$0,05x = 321,05 \quad \parallel : 0,05$$

$$x = \frac{321,05}{0,05}$$

$$x = 6421$$

V: Kopioita otettiin 6421 kpl.