

3.22 Tutki, toteuttavatko yhtälön

~~CAS~~ $x - (6x + 5) = -15$ ratkaisut yhtälön

$2x \cdot (5x - 4) = 24.$

3.23 Millä vakion a arvoilla jokin luku toteuttaa

~~CAS~~ yhtälön $(2a + 4)x = 3$?

22 Ratkaistaan ensin $x - (6x + 5) = -15$
 $x - 6x - 5 = -15$
 $-5x = -10 \quad || : (-5)$
 $x = 2$

sijoitetaan $x = 2$
jälkeiseen yhtälöön

$2x \cdot (5x - 4) = 24$

$2 \cdot 2 \cdot (5 \cdot 2 - 4) = 24$

$4 \cdot 6 = 24$ (tosi) V: Kyllä toteuttaa

23.

$(2a + 4)x = 3 \quad || : (2a + 4)$

huomaa tehän on maaliluku

$\Rightarrow$ myös $2a + 4 \neq 0$

jatetaan puolittain $2a + 4 : 2$

$x = \frac{3}{2a + 4}$

jakaja ei voi olla 0 $\Leftrightarrow$

$2a + 4 \neq 0$
 $2a \neq -4 \quad || : 2$
 $a \neq -2$

Yhtälöpari

Ratkaisu: a) $\begin{cases} y = 3x + 1, & \text{niijoitetaan alimpaan} \\ y = -x + 2 \end{cases} \Rightarrow y = -\frac{1}{4} + 2 = -\frac{1}{4} + \frac{8}{4} = \frac{7}{4}$

$$3x + 1 = -x + 2$$

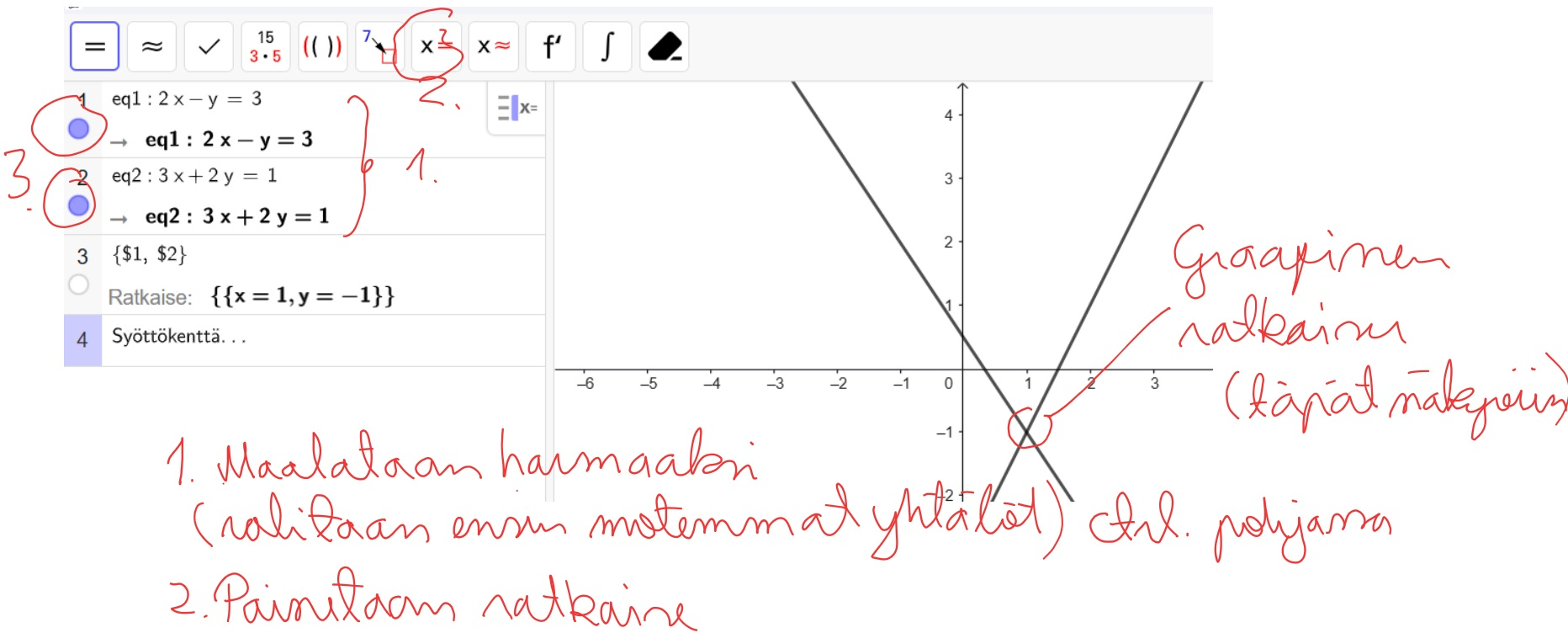
$$4x = 1 \parallel :4$$

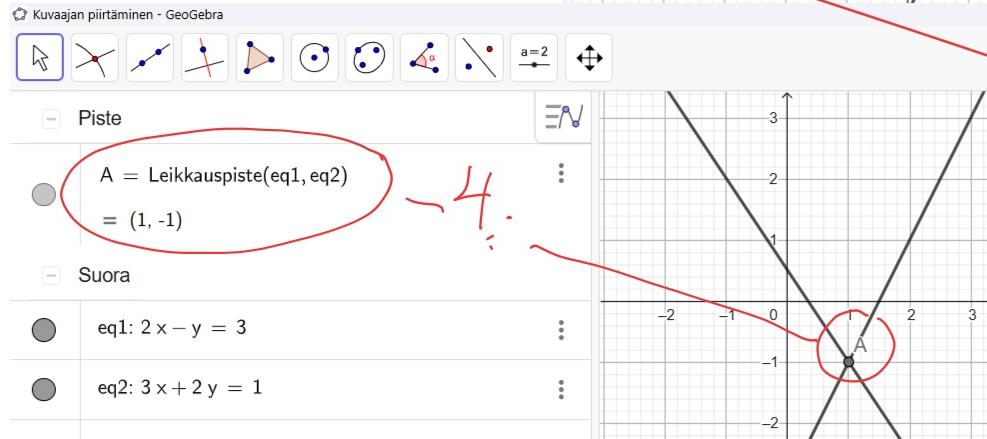
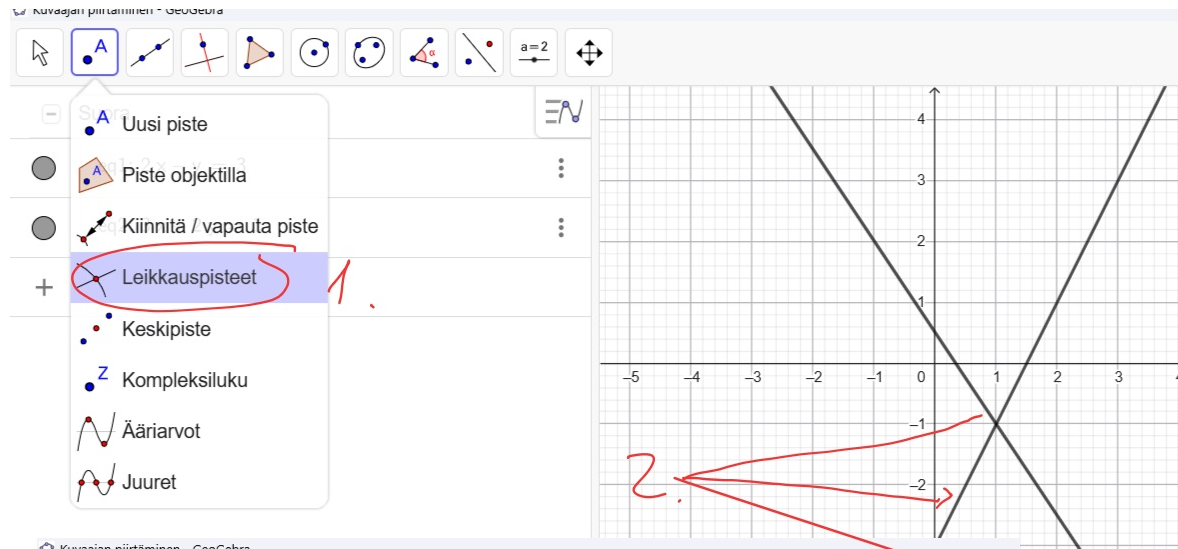
$$x = \frac{1}{4}$$

$$\text{Varl: } \begin{cases} x = \frac{1}{4} \\ y = \frac{7}{4} \end{cases}$$

b) $\begin{cases} 2x - y = 3 \parallel \cdot 2 \\ 3x + 2y = 1 \end{cases} \Rightarrow \begin{aligned} & \underline{\underline{x = 1}} \\ & \text{niij. } 2 \cdot 1 - y = 3 \\ & -y = 1 \parallel :(-1) \\ & \underline{\underline{y = -1}} \end{aligned}$

$$\begin{array}{r} \begin{cases} 2x - y = 3 \\ 3x + 2y = 1 \end{cases} \\ \begin{cases} 4x - 2y = 6 \\ + 3x + 2y = 1 \end{cases} \\ \hline 7x = 7 \parallel :7 \end{array}$$





täpätään molempia
suoria

→ eq1 : $2x - y = 3$

2 Ratkaise

3 RatkaiseDY

4 RatkaiseKolmannenAsteenPolynomi

5 RatkaiseNumeerisesti

6 RatkaisePisteinä

7 CRatkaise

8 NRatkaiseDY

9 Ratkaise

10 Ratkaise(Yhtälö x muuttujana)

11 Ratkaise(Yhtälö, Muuttuja)

12 Ratkaise(Yhtälölista, Muuttujalista)

13 Ratkaise(Lista parametrisiä yhtälöitä, Muuttujalista)

14 Ratkaise(Yhtälö, Muuttuja, Lista oletuksia)

15 Ratkaise

16 Ratkaise

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4 $y = 3x + 1$

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