

Harjoitusmoniste: Yhtälöratkaiseminen

Tehtävä 1. Jaa luku pois x:n edestä.

a) $2x = 8 \quad ||:2$

$$\frac{2x}{2} = \frac{8}{2}$$

$$x = 4$$

b) $3x = 24 \quad ||:3$

$$\frac{3x}{3} = \frac{24}{3}$$

$$x = 8$$

c) $5x = 45 \quad ||:5$

$$\frac{5x}{5} = \frac{45}{5}$$

$$x = 9$$

d) $3x = 9 \quad ||:3$

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

$$x = 3$$

e) $2x = 2 \quad ||:2$

$$\frac{2x}{2} = \frac{2}{2}$$

$$x = 1$$

f) $8x = 56 \quad ||:8$

$$\frac{8x}{8} = \frac{56}{8}$$

$$x = 7$$

Tehtävä 2. Jaa luku pois x:n edestä.

a) $-7x = 63 \quad ||:(-7)$

$$\frac{-7x}{-7} = \frac{63}{-7}$$

$$x = -9$$

b) $5x = -40 \quad ||:5$

$$\frac{5x}{5} = \frac{-40}{5}$$

$$x = -8$$

c) $-3x = -27 \quad ||:(-3)$

$$\frac{-3x}{-3} = \frac{-27}{-3}$$

$$x = 9$$

d) $-4x = 32 \quad ||:(-4)$

$$\frac{-4x}{-4} = \frac{32}{-4}$$

$$x = -8$$

e) $6x = 54 \quad ||:6$

$$\frac{6x}{6} = \frac{54}{6}$$

$$x = 9$$

f) $-x = 7 \quad ||:(-1)$

$$\frac{-x}{-1} = \frac{7}{-1}$$

$$x = -7$$

Tehtävä 3. Siirrä termit ensin ja suorita jakolasku tämän jälkeen.

a) $2x + 1 = 5$

$$2x = 5 - 1$$

$$2x = 4 \quad ||:2$$

$$\frac{2x}{2} = \frac{4}{2}$$

$$x = 2$$

b) $3x - 2 = 10$

$$3x = 10 + 2$$

$$3x = 12 \quad ||:3$$

$$\frac{3x}{3} = \frac{12}{3}$$

$$x = 4$$

c) $9x - 1 = 80$

$$9x = 80 + 1$$

$$9x = 81 \quad ||:9$$

$$\frac{9x}{9} = \frac{81}{9}$$

$$x = 9$$

$$d) 10x - 5 = 85$$

$$10x = 85 + 5$$

$$10x = 90 \quad ||: 10$$

$$\frac{10x}{10} = \frac{90}{10}$$

$$x = 9$$

$$e) 7x + 3 = 66$$

$$7x = 66 - 3$$

$$7x = 63 \quad ||: 7$$

$$\frac{7x}{7} = \frac{63}{7}$$

$$x = 9$$

$$f) 6x + 1 = 37$$

$$6x = 37 - 1$$

$$6x = 36 \quad ||: 6$$

$$\frac{6x}{6} = \frac{36}{6}$$

$$x = 6$$

Tehtävä 4. Siirrä termit ensin ja suorita jakolasku tämän jälkeen.

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

$$4x - 2x = 6$$

$$2x = 6 \quad ||: 2$$

$$\frac{2x}{2} = \frac{6}{2}$$

$$x = 3$$

$$b) 6x = -3x - 27$$

$$6x + 3x = -27$$

$$9x = -27 \quad ||: 9$$

$$\frac{9x}{9} = \frac{-27}{9}$$

$$x = -3$$

$$c) -4x = -6x + 8$$

$$-4x + 6x = 8$$

$$2x = 8 \quad ||: 2$$

$$\frac{2x}{2} = \frac{8}{2}$$

$$x = 4$$

$$d) 10x = -2x + 24$$

$$10x + 2x = 24$$

$$12x = 24 \quad ||: 12$$

$$\frac{12x}{12} = \frac{24}{12}$$

$$x = 2$$

$$e) 15x = 8x + 49$$

$$15x - 8x = 49$$

$$7x = 49 \quad ||: 7$$

$$\frac{7x}{7} = \frac{49}{7}$$

$$x = 7$$

$$f) x = 3x + 14$$

$$x - 3x = 14$$

$$-2x = 14 \quad ||: (-2)$$

$$\frac{-2x}{-2} = \frac{14}{-2}$$

$$x = -7$$