

S.145

## Yhtälö

lauseke = lauseke

esim.

$$\boxed{X + 2 = 5}$$
$$\boxed{X = 3}$$

yhtälön ratkaisu

esim.

$$\begin{array}{rclcl} X + 2 & = & 5 & & \parallel -2 \\ X + \cancel{2} - 2 & = & 5 - 2 & & \\ X & = & 3 & & \end{array}$$

esim.

$$\begin{array}{rclcl} X - 4 & = & 6 & & \parallel +4 \\ X - \cancel{4} + 4 & = & 6 + 4 & & \\ X & = & 10 & & \end{array}$$

esim.

$$\begin{array}{rclcl} \frac{3X}{3} & = & \frac{12}{3} & & \parallel :3 \\ X & = & 4 & & \end{array}$$

esim.

$$\begin{array}{rclcl} \frac{X}{2} & = & 6 & & \parallel \cdot 2 \\ 2 \cdot \frac{X}{2} & = & 6 \cdot 2 & & \\ X & = & 12 & & \end{array}$$

680

$$\begin{aligned} \text{a)} \quad x + 6 &= 8 & \parallel -6 \\ x + 6 - 6 &= 8 - 6 \\ x &= 2 \end{aligned}$$

$$\begin{aligned} \text{b)} \quad x + 3 &= 12 & \parallel -3 \\ x + 3 - 3 &= 12 - 3 \\ x &= 9 \end{aligned}$$

$$\begin{aligned} \text{c)} \quad x + 4 &= 5 & \parallel -4 \\ x + 4 - 4 &= 5 - 4 \\ x &= 1 \end{aligned}$$

$$\begin{aligned} \text{d)} \quad 3 + x &= 8 & \parallel -3 \\ \cancel{3} + x - \cancel{3} &= 8 - 3 \\ x &= 5 \end{aligned}$$

681

$$\begin{aligned} \text{a)} \quad x - 8 &= 1 & \parallel +8 \\ x - 8 + 8 &= 1 + 8 \\ x &= 9 \end{aligned}$$

$$\begin{aligned} \text{b)} \quad x - 3 &= 11 & \parallel +3 \\ x - 3 + 3 &= 11 + 3 \\ x &= 14 \end{aligned}$$

$$\begin{aligned} \text{c)} \quad x - 2 &= 7 & \parallel +2 \\ x - 2 + 2 &= 7 + 2 \\ x &= 9 \end{aligned}$$

$$d) \quad x - 9 = 1 \quad || +9$$

$$x - 9 + 9 = 1 + 9$$

$$x = 10$$

(682)

$$a) \quad \frac{2x}{2} = \frac{10}{2} \quad || :2$$

$$x = 5$$

4

$$b) \quad \frac{5x}{5} = \frac{20}{5} \quad || :5$$

$$x = 4$$

$$c) \quad \frac{4x}{4} = \frac{8}{4} \quad || :4$$

$$x = 2$$

$$d) \quad \frac{3x}{3} = \frac{33}{3} \quad || :3$$

$$x = 11$$

(683)

$$a) \quad \frac{x}{2} = 5 \quad || \cdot 2$$

$$\left[ \frac{2x}{2} = 2 \cdot 5 \right]$$

$$x = 10$$

$$b) \quad \frac{x}{2} = 7 \quad || \cdot 2$$

$$\frac{2x}{2} = 7 \cdot 2$$

$$x = 14$$

$$c) \quad \frac{x}{3} = 6 \quad || \cdot 3$$

$$\frac{3x}{3} = 6 \cdot 3$$

$$x = 18$$

$$d) \quad \frac{x}{10} = 6 \quad || \cdot 10$$

$$\frac{10x}{10} = 6 \cdot 10$$

$$x = 60$$

684

685

686