

KOTITEHTÄVÄT 518,519

S.96

518.

$$\text{a) } \frac{3x-1}{4} = \frac{x+7}{5} \quad \parallel \text{ ker rotaan } ristiin$$

$$5(3x-1) = 4(x+7)$$

$$15x-5 = 4x+28 \quad \parallel -4x$$

$$11x-5 = 28 \quad \parallel +5$$

$$11x = 33 \quad \parallel : 11$$

$$x = 3$$

$$\text{b) } \frac{y}{3} = \frac{y+4}{5} \quad \parallel ristiin$$

$$3(y+4) = 5y$$

$$3y+12 = 5y \quad \parallel -3y$$

$$12 = 2y \quad \parallel : 2$$

$$6 = y$$

$$\text{c) } \frac{y+6}{9} = \frac{y-2}{5} \quad \parallel \text{ ker rotaan } ristiin$$

$$5(y+6) = 9(y-2)$$

$$5y+30 = 9y-18 \quad \parallel -9y$$

$$-4y+30 = -18 \quad \parallel -30$$

$$-4y = -48 \quad \parallel : (-4)$$

$$y = 12$$

$$\text{d) } \frac{3x-2}{6} = \frac{2x+3}{4} \quad \parallel ristiin$$

$$4(3x-2) = 6(2x+3)$$

$$12x-8 = 12x+18 \quad \parallel -12x$$

$$-8 = 18 \quad \text{ei ratkaisua}$$

519.

$$\text{a) } \frac{x}{4} - 3 = 6 \quad \parallel +3$$

$$\frac{x}{4} = 9 \quad \parallel \cdot 4$$

$$x = 36$$

$$\text{b) } \frac{x}{3} - 4 = 8 \quad \parallel +4$$

$$\frac{x}{3} = 12 \quad \parallel \cdot 3$$

$$x = 36$$

$$\text{c) } \frac{x}{3} + 5 = 7 \quad \| -5$$

$$\frac{x}{3} = 2 \quad \| \cdot 3$$

$$x = 6$$

$$\text{d) } \frac{5x-7}{4} - 4 = \frac{9+2x}{3}$$

$$\frac{5x-7}{4} - \frac{4}{1} = \frac{9+2x}{3}$$

$$\frac{5x-7}{4} - \frac{16}{4} = \frac{9+2x}{3}$$

$$\frac{5x-7-16}{4} = \frac{9+2x}{3}$$

$$\frac{5x-23}{4} = \frac{9+2x}{3} \quad \| \text{ristiin}$$

$$3(5x-23) = 4(9+2x)$$

$$15x-69 = 36+8x \quad \| -8x$$

$$7x-69 = 36 \quad \| +69$$

$$7x = 105 \quad \| :7$$

$$x = 15$$