

Škola: Osnovna škola Vladimira Pavlovića u Čapljini

Razred: VIII.

Nastavni predmet: Matematika

Datum: 26.03.2020.g.

Nastavna jedinka: Metoda supstitucije

U uvodnom djelu provjeriti točnost domaće zadaće.

Rješenje:

1. Metodom supstitucije (zamjene) riješi sustave jednačini i napravi provjeru.

a) $y=3$ supst.

$$x-y+4=0$$

$$x-3+4=0$$

$$x=3-4$$

$$x=-1$$

$$\boxed{(-1, 3)}$$

b) $x=2$ supst.

$$x-y+3=0$$

$$2-y+3=0$$

$$-y=-2-3$$

$$-y=-5 \quad | :(-1)$$

$$y=5$$

$$\boxed{(2, 5)}$$

c) $x=y+9$ supst

$$x-3y=11$$

$$y+9-3y=11$$

$$y-3y=11-9$$

$$-2y=2 \quad | :(-2)$$

$$y=1$$

$$x=1+9$$

$$x=8$$

$$\boxed{(8, 1)}$$

d) $y=x+8$ supst

$$3x-y=16$$

$$3x-(x+8)=16$$

$$3x-x-8=16$$

$$2x=24 \quad | :2$$

$$x=12$$

$$y=12+8$$

$$y=20$$

$$\boxed{(12, 20)}$$

Metoda supstitucije

Prepisati u bilježnicu zadatke na idućoj stranici.

Metodom supstitucije riješi sustave
jednadžbi i provjeri rješenja.

$$\begin{array}{l} \text{a) } x+y=9 \Rightarrow \boxed{x=9-y} \\ \quad x-y=-5 \end{array} \quad \text{supst.}$$

$$\begin{array}{l} 9-y-y=-5 \\ -2y=-14 \quad | :(-2) \\ \boxed{y=7} \end{array}$$

$$\begin{array}{l} x=9-y \\ x=9-7 \\ \boxed{x=2} \end{array}$$

$$\boxed{(2, 7)}$$

$$\begin{array}{l} \text{b) } x-y=9 \Rightarrow \boxed{x=9+y} \\ \quad x-3y=7 \end{array} \quad \text{supst.}$$

$$\begin{array}{l} 9+y-3y=7 \\ -2y=-2 \quad | :(-2) \\ \boxed{y=1} \end{array}$$

$$\begin{array}{l} x=9+y \\ x=9+1 \\ \boxed{x=10} \end{array}$$

$$\boxed{(10, 1)}$$

$$\begin{array}{l} \text{c) } x-y+3=0 \Rightarrow \boxed{x=y-3} \\ \quad 5x+3y=41 \end{array} \quad \text{supst.}$$

$$\begin{array}{l} 5(y-3)+3y=41 \\ 5y-15+3y=41 \\ 8y=56 \quad | :8 \\ \boxed{y=7} \end{array}$$

$$\begin{array}{l} x=7-3 \\ \boxed{x=4} \end{array}$$

$$\boxed{(4, 7)}$$

$$\begin{array}{l} \text{d) } 3x-10y=-53 \\ \quad 4x+y-1=0 \Rightarrow \boxed{y=1-4x} \end{array}$$

$$\begin{array}{l} 3x-10(1-4x)=-53 \\ 3x-10+40x=-53 \\ 43x=-43 \quad | :43 \\ \boxed{x=-1} \end{array}$$

$$\begin{array}{l} y=1-4(-1) \\ y=1+4 \\ \boxed{y=5} \end{array}$$

$$\boxed{(-1, 5)}$$

Za domaću zadaću uraditi 3. zadatak pod a), b), c) i d) na stranici 174.