

**Zadatak 4.** Za funkcije zadane formulom  $y = f(x)$  napišite njihovu inverznu funkciju (ako ona postoji) u obliku  $y = f^{-1}(x)$  i nacrtajte grafove objiju funkcija u istom koordinatnom sustavu.

1)  $y = 2x - 3$ ;

2)  $y = -\frac{1}{2}x + 1$ ;

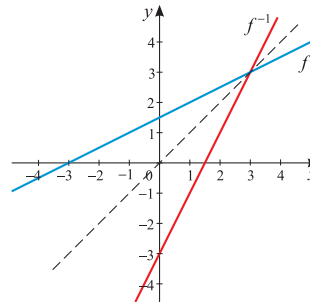
3)  $y = x^3 + 2$ ;

4)  $y = x^2$ ;

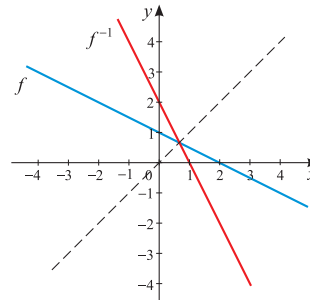
5)  $y = \frac{1}{x}$ ;

6)  $y = 4 - x^2, x \geq 0$ .

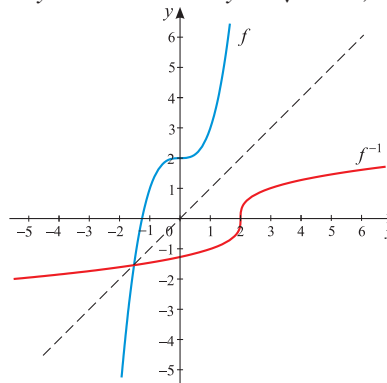
**Rješenje.** 1)  $x = 2y - 3 \implies y = \frac{x+3}{2}$ ;



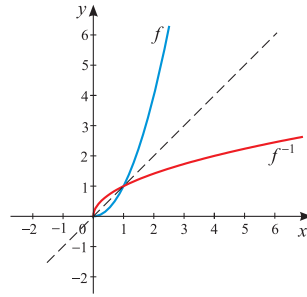
2)  $x = -\frac{1}{2}y + 1 \implies -2x = y - 2 \implies y = 2 - 2x$ ;



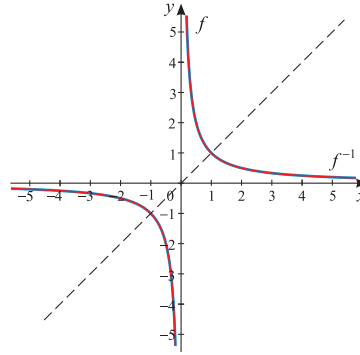
3)  $x = y^3 + 2 \implies y^3 = x - 2 \implies y = \sqrt[3]{x-2}$ ;



4) Ne postoji inverzna funkcija od  $y = x^2$  na čitavoj prirodnoj domeni, ali ako danu funkciju gledamo na  $\mathbf{R}^+$  tada je njena inverzna funkcija  $y = \sqrt{x}$ .



$$5) x = \frac{1}{y} \implies y = \frac{1}{x}, \quad x, y \neq 0;$$



$$6) x = 4 - y^2 \implies y = \sqrt{4 - x} \quad (x \leq 4);$$

