

Translacija grafa kvadratne funkcije

1. Funkcija $f(x) = -x^2 - 4$ ima tjeme u točki

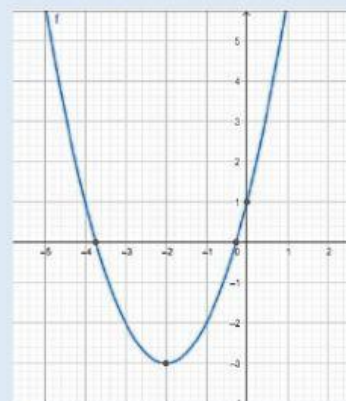
- a) $(-4, 0)$
- b) $(0, -4)$
- c) $(-4, -4)$
- d) $(4, -4)$.



2. Koji je pravac os simetrije parabole $y = (x + 2)^2 - 3$?

- a) $x = -2$
- b) $x = -3$
- c) $x = 2$
- d) $x = 3$

3. Kolika je najmanja vrijednost kvadratne funkcije čiji je graf prikazan na slici?



4. Koje su koordinate tjemena kvadratne funkcije $f(x) = (x + 4)^2$?

T(____,____)

5. Parabola prolazi točkom $M(5, 3)$ i ima tjeme u točki $T(6, 0)$. Koja je od ponuđenih njena jednadžba?

- | | | |
|----------------------|---------------------|---------------------|
| a) $y = -3(x + 6)^2$ | b) $y = 3(x + 6)^2$ | c) $y = 3(x - 6)^2$ |
| d) $y = -3(x - 6)^2$ | e) $y = (x + 6)^2$ | f) $y = (x - 6)^2$ |

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6. Nacrtajte graf funkcije $f(x) = -(-x + 1)^2 + 2$ (u bilježnicu) prateći korake u nastavku i odgovarajući na pitanja.

I. korak

Najprije odredite točke i skicirajte graf funkcije $f(x) = ax^2$, kojoj je $a = \underline{\hspace{2cm}}$. Parabola je otvorena prema  $\underline{\hspace{2cm}}$.

II. korak

U kojem smjeru i za koliko pomičete dobiveni graf (odaberite sve pomake)?

a) desno za 1

b) lijevo za 1

c) dolje za 2

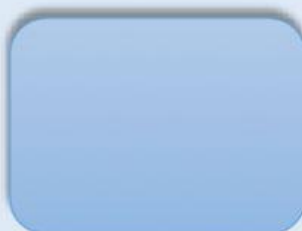
d) gore za 2

e) gore za 1

f) lijevo za 2

III. korak

Tjeme dobivene parabole je:



IV. korak

Os simetrije parabole je:

a) $x = 2$

b) $x = 1$

c) $x = -2$

d) $y = 1$

e) $x = -1$

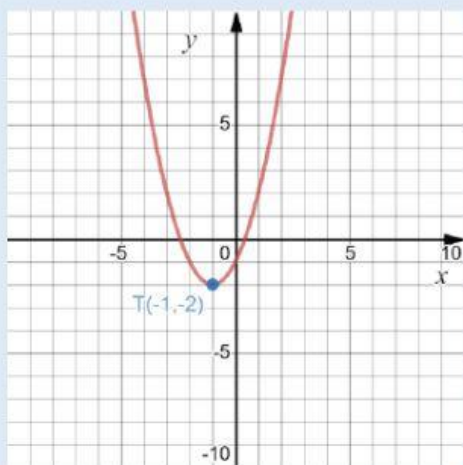
f) $y = 2$

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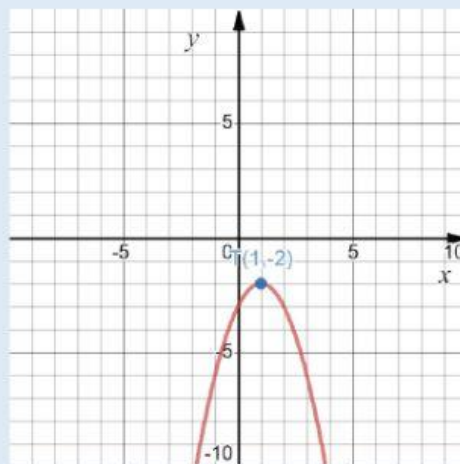
V. korak

Graf zadane funkcije je:

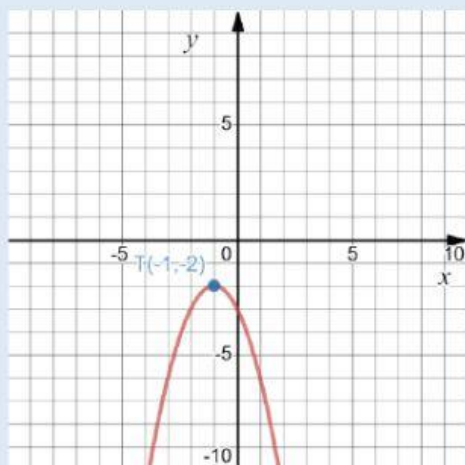
a)



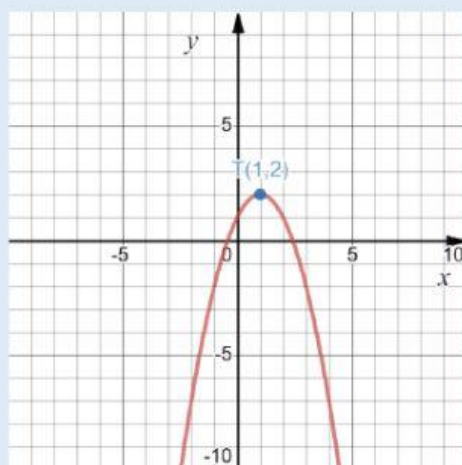
b)



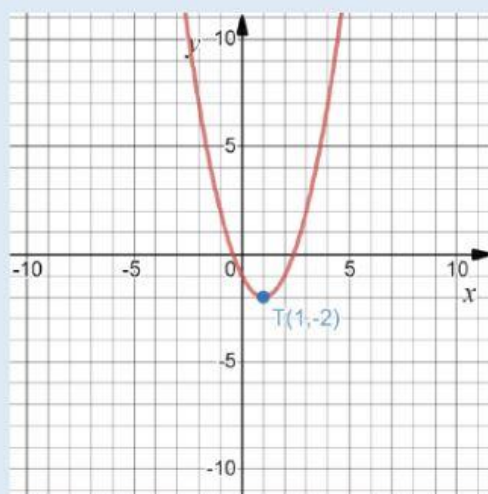
c)



d)



e)

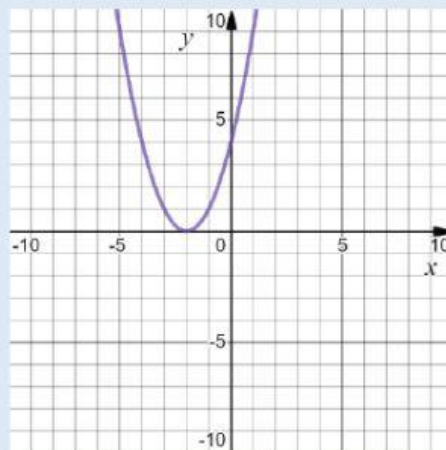
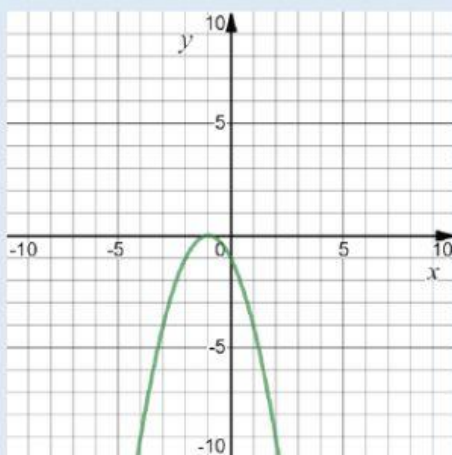
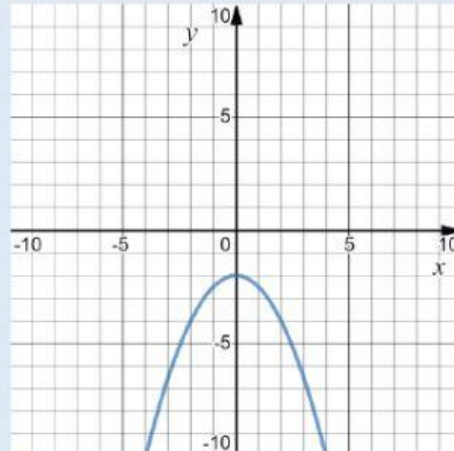
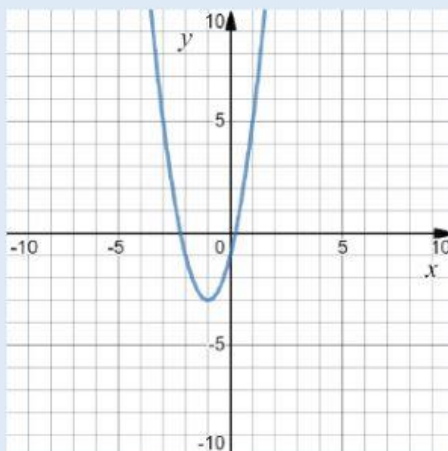
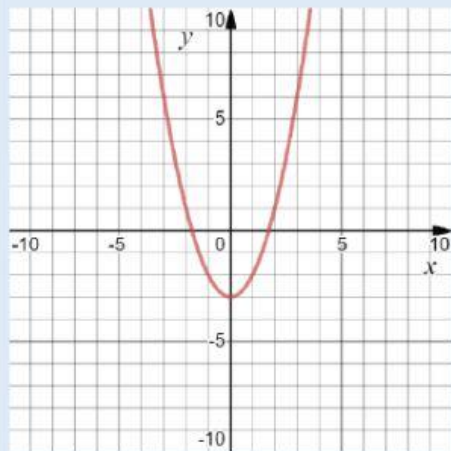


NEVER
GIVE UP



Translacija grafa kvadratne funkcije

7. Formulu kvadratne funkcije povucite do odgovarajućeg grafa.



$$f(x) = -(-x - 1)^2$$

$$f(x) = (-x - 2)^2$$

$$f(x) = 2(x + 1)^2 - 3$$

$$f(x) = -\frac{1}{2}x^2 - 2$$

$$f(x) = x^2 - 3$$

