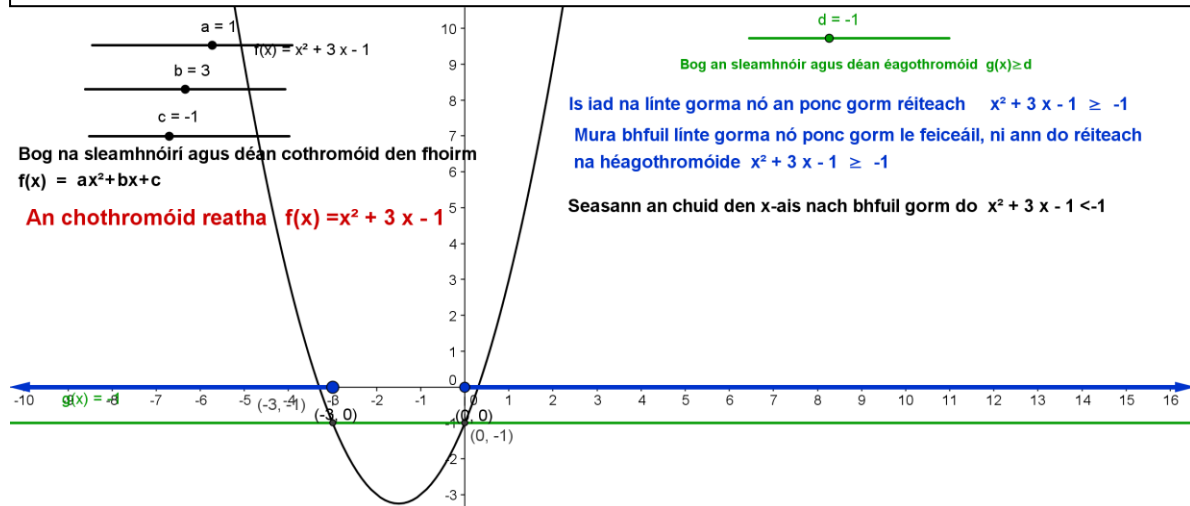


Gníomhaíocht Daltaí: Éagothromóidí Cearnacha a Iniúchadh

Déan in éineacht leis an gcomhad idirghníomhach, 'Éagothromóidí cearnacha' ar CD an Dalta.

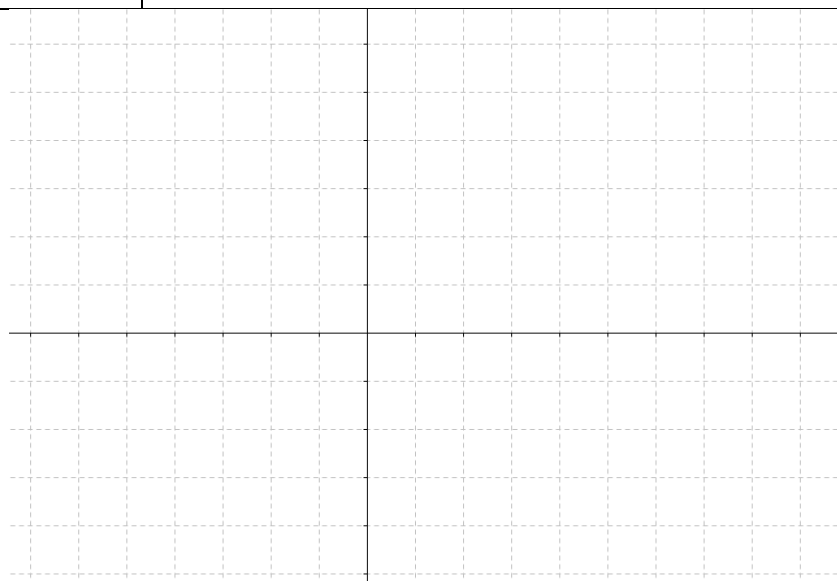
Ag iniúchadh éagothromóidí san fhoirm $f(x) \leq k$, $f(x) \geq k$, $f(x) < k$ agus $f(x) > k$,

nuair atá $f(x) = ax^2 + bx + c$.



Líon isteach an tábla thíos agus tarraing an graf de $f(x) = x^2 + 3x + 2$.

x	$f(x) = x^2 + 3x + 2$
-3	
-2	
-1	
0	
1	
2	
3	



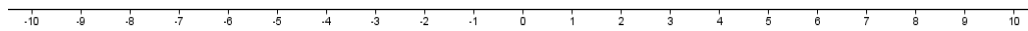
a) Taispeáin ar an ngraf na pointí ag a ngearrann an graf an x-ais, agus liostaigh iad. Cén luach atá ag $f(x)$ ag gach pointe díobh?

b) Tarraing an líne $g(x) = 2$, ar an ngreille chéanna.

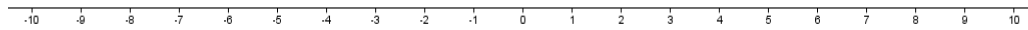
c) Taispeáin ar an ngraf na pointí ag a bhfuil $f(x) = g(x)$, agus liostaigh iad. An iad sin na pointí a fuair tú do $x^2+3x+2 = 2$? Míneigh.

d) Marcáil ar an uimhirlíne na luachanna atá ar x nuair atá:

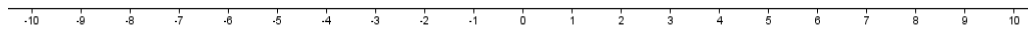
i) $x^2+3x+2 \geq 2$



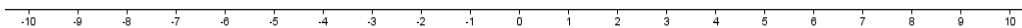
ii) $x^2+3x+2 < 2$



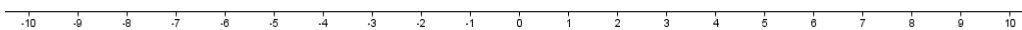
iii) $x^2+3x+2 \leq 2$



iv) $x^2+3x+2 > 2$



v) $x^2+3x+2 = 0$



e) Seiceáil do chuid freagraí leis an gcomhad idirghníomhach.

f) Cén difríocht atá idir réiteach an dá éagothromóid $f(x) \leq 0$ agus $f(x) < 0$, tríd is tríd?

2) Lón isteach an tábla agus tarraing an graf de $f(x) = -x^2 + 3x + 2$.

x	$f(x) = -x^2 + 3x + 2$
-3	
-2	
-1	
0	
1	
2	
3	



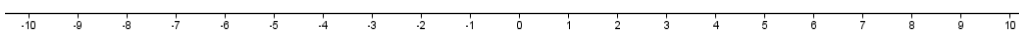
a) Marcáil ar an ngraf na pointí ag a ngearrann an graf sin an x-ais, agus liostaigh na pointí. Céard é luach $f(x)$ ag gach pointe díobh?

b) Tarraing, ar an ngrille chéanna, an líne $g(x) = 1$.

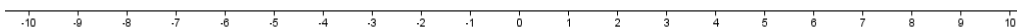
c) Marcáil ar an ngraf na pointí ag a bhfuil $f(x) = g(x)$. Liostaigh iad. An ionann sin agus an rud a fuair tú i gcás $x^2 + 3x + 2 = 2$? Mínigh do fhreagra.

d) Marcáil ar an uimhirlíne na luachanna atá ag x nuair atá:

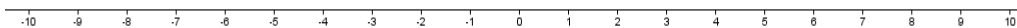
i) $-x^2 + 3x + 2 \leq 1$



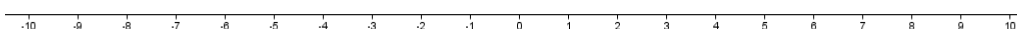
ii) $-x^2+3x+2 \geq 1$



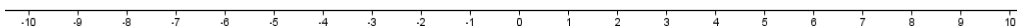
iii) $-x^2+3x+2 < 1$



iv) $-x^2+3x+2 > 1$



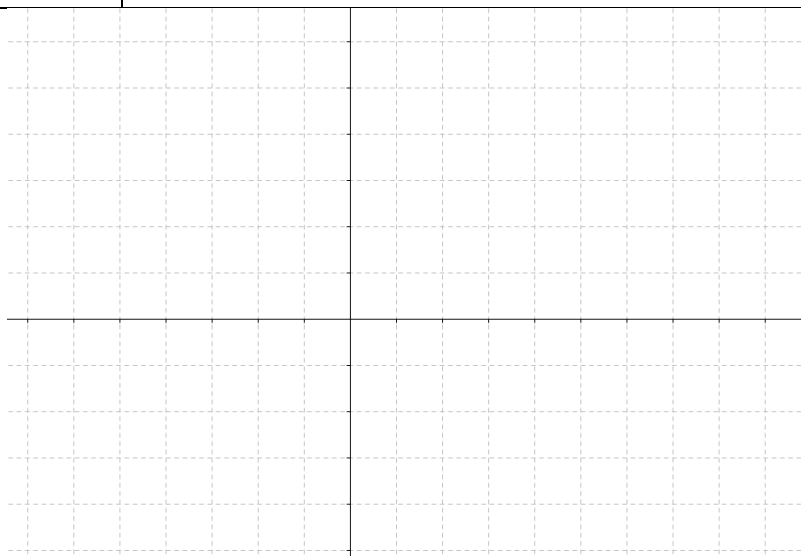
v) $-x^2 + 3x + 2 = 0$



e) Seiceáil do chuid freagraí leis an gcomhad idirghníomhach.

3) Lón isteach an tábla seo agus tarraing an graf de $f(x) = x + 3 - x^2$.

x	$f(x) = x + 3 - x^2$
-3	
-2	
-1	
0	
1	
2	
3	



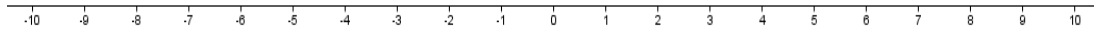
- a) Marcáil ar an ngraf na pointí ag a ngearrann an graf sin an x-ais, agus liostaigh na pointí. Céard é luach $f(x)$ ag gach pointe díobh?

- b) Ar an ngreille chéanna, tarraing an líne $g(x) = 4$.

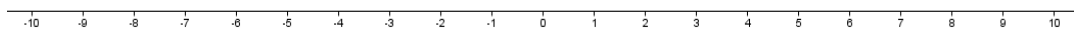
- c) Marcáil ar an ngraf na pointí ag a bhfuil $f(x) = g(x)$, agus liostaigh na pointí sin. An ionann iad agus na pointí do $x + 3 - x^2 = 2$? Mínigh do fhreagra.

- d) Léirigh ar an uimhirlíne na x-luachanna nuair atá:

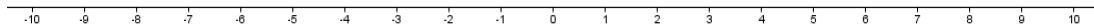
i) $x + 3 - x^2 \geq 4$



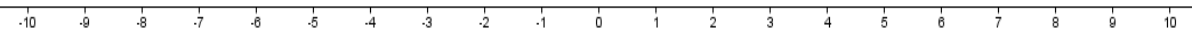
ii) $x + 3 - x^2 < 4$



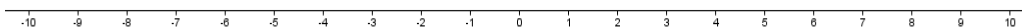
iii) $x + 3 - x^2 \leq 4$



iv) $x + 3 - x^2 > 4$

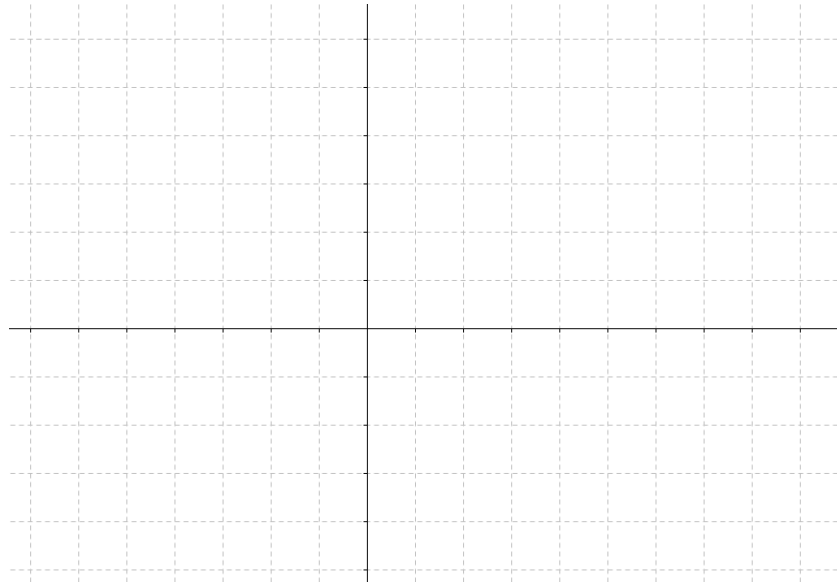


v) $x + 3 - x^2 = 0$



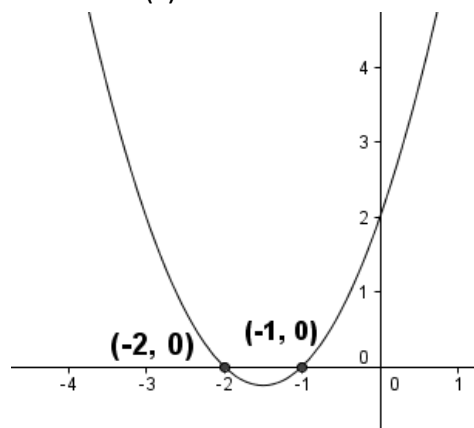
- e) Seiceáil do chuid freagraí leis an gcomhad idirghníomhach.

- 4) Glactar leis go ngearrann $f(x) = (x + a)(x + b)$ an x-ais ag $-a$ agus ag $-b$: faigh fachtóirí $x^2 + 5x + 4 = 0$ agus léirigh an éagothromóid $x^2 + 5x + 4 < 0$ ar ghraf.



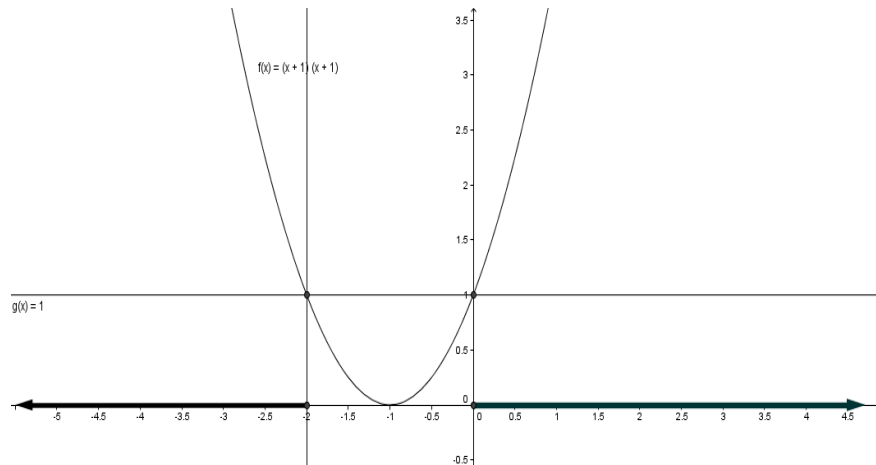
5)

- a) Tabhair cothromóid na feidhme $f(x)$ atá á léiriú ar an léaráid thíos.

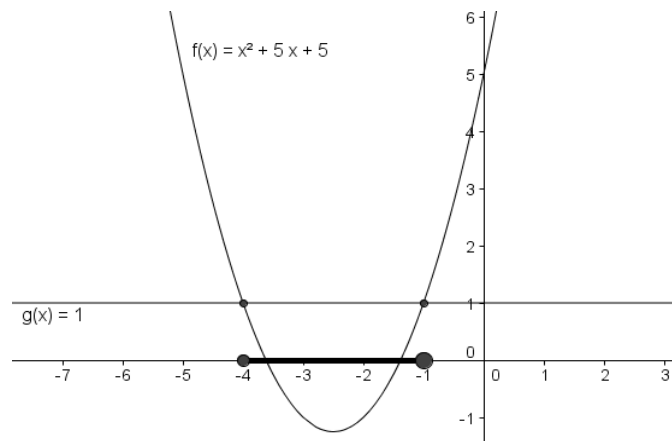


- b) Marcáil ar an ngraf, i ndearg, réiteach na héagothromóide $f(x) \leq 2$.
- c) Marcáil ar an ngraf, i ngorm, réiteach na héagothromóide $f(x) \geq 2$.
- d) Faigh réiteach na héagothromóide $f(x) < 2$. Cén difríocht atá idir é sin agus an réiteach ar cheist b) thuas?

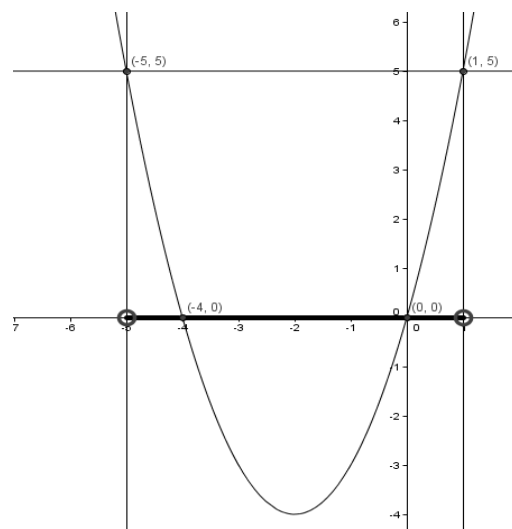
- 6) Cén éagthromóid atá á léiriú le línte tromha dubha sa ghráf thíos? Abair i bhfocail é, agus go matamaiticiúil.



- 7) Abair i bhfocail agus scríobh go matamaiticiúil an éagthromóid atá á léiriú leis an líne throm dhubh sa ghráf thíos.

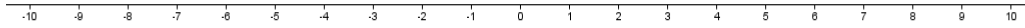


- 8) Abair i bhfocail agus scríobh go matamaiticiúil an éagthromóid atá á léiriú leis an líne throm dhubh sa ghráf thíos.

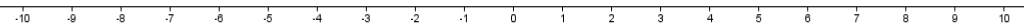


9) Glactar leis go bhfuil $f(x) = x^2 + 2x - 8$. Marcáil ar na huimhirlínte thíos na réimsí sin a shásaíonn na héagothromóidí ar leith.

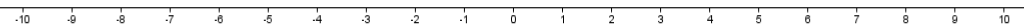
a) $f(x) \geq 0$



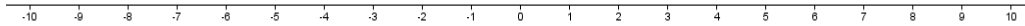
b) $f(x) \leq 0$



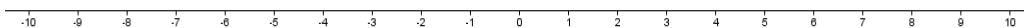
c) $f(x) < 0$



d) $f(x) > 0$



e) $f(x) = 0$



10) Más é $f(x)$ an fheidhm chearnach atá á léiriú ar an ngraf thíos agus más é $g(x)$ an líne atá á léiriú ar an ngraf thíos, faigh tacar réitigh $f(x) \leq g(x)$.

