

For how many integers is

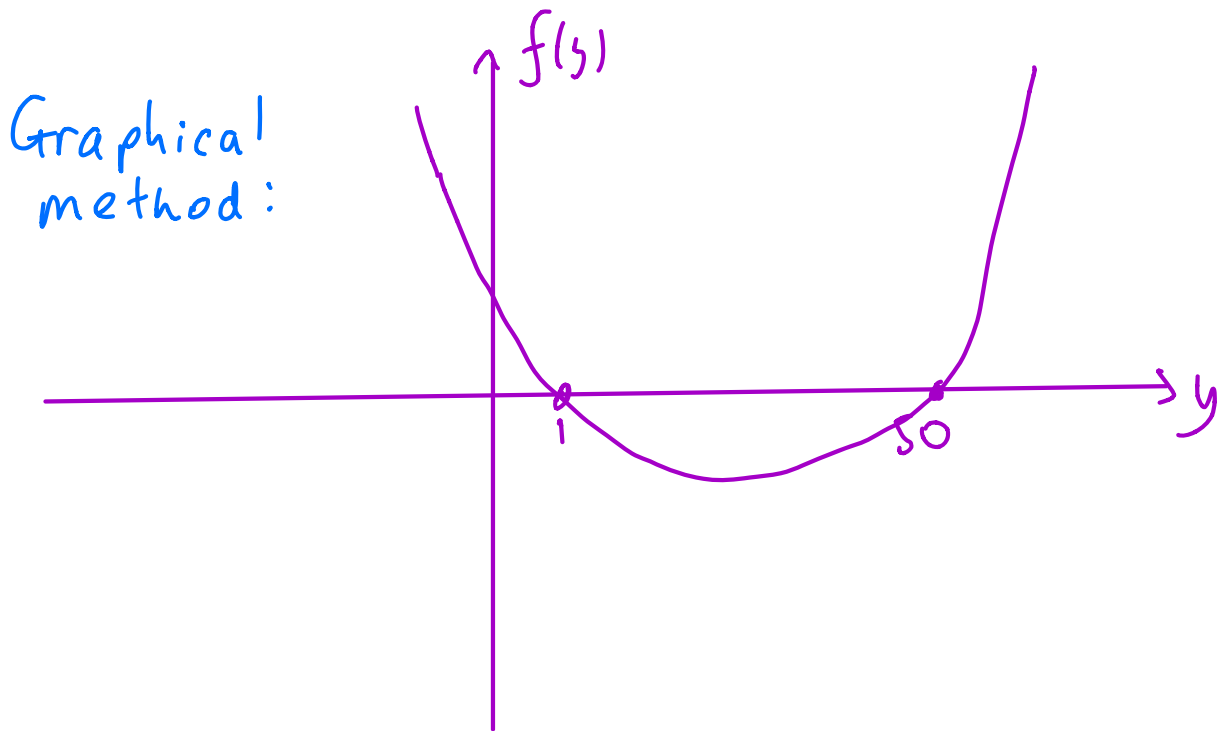
$$x^4 - 51x^2 + 50$$

negative?

Rewrite $y = x^2$

$$\text{So } y^2 - 51y + 50 < 0$$

$$\Rightarrow (y-1)(y-50) < 0 \quad [\text{Factorise by inspection}]$$



Need $1 < y < 50$ For $(y-1)(y-50) > 0$:

$$\Rightarrow 1 < x^2 < 50$$

$$\Rightarrow x = \pm 2, \pm 3, \pm 4, \pm 5, \pm 6, \pm 7$$

So there are 12 values.