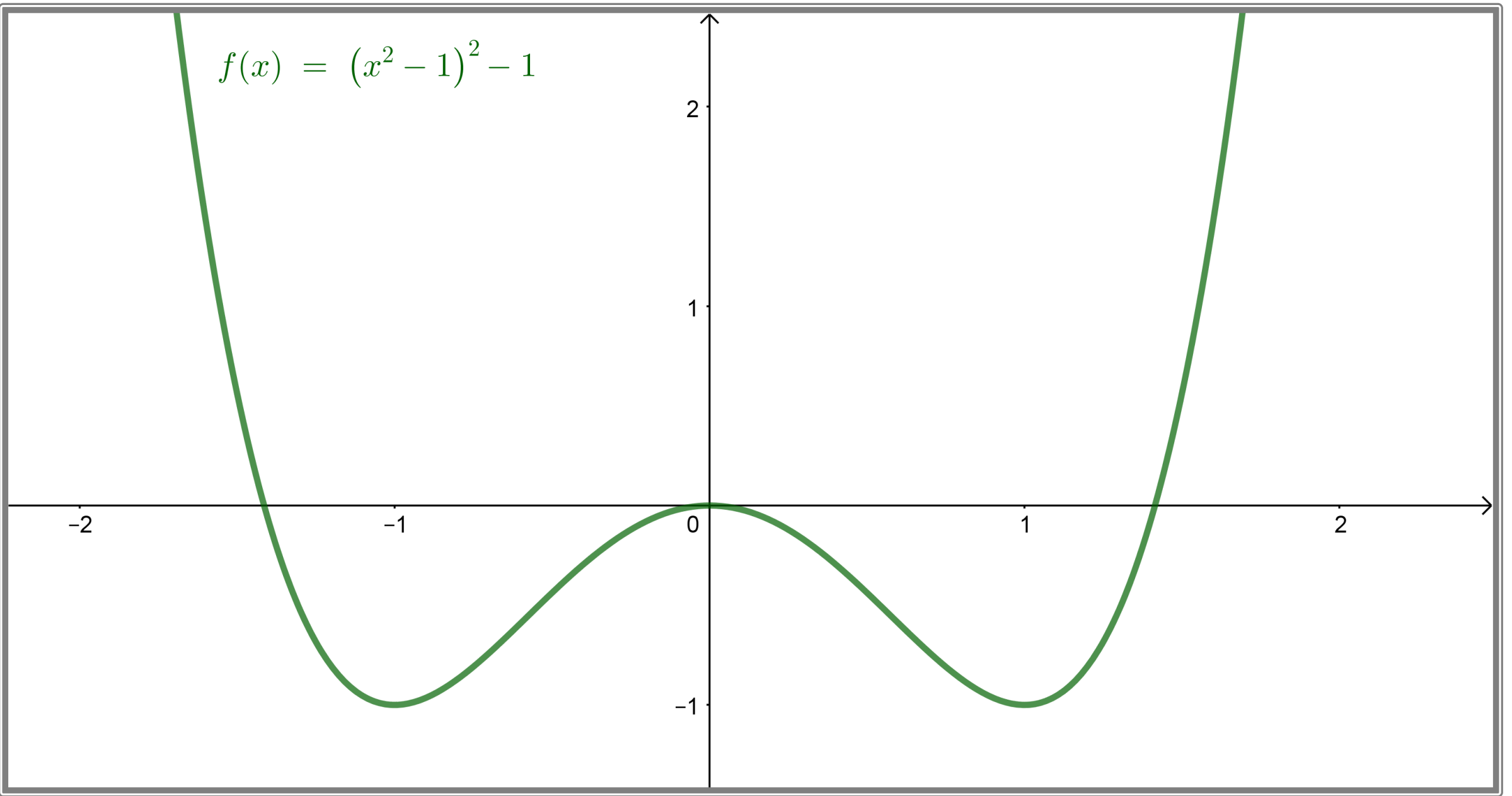
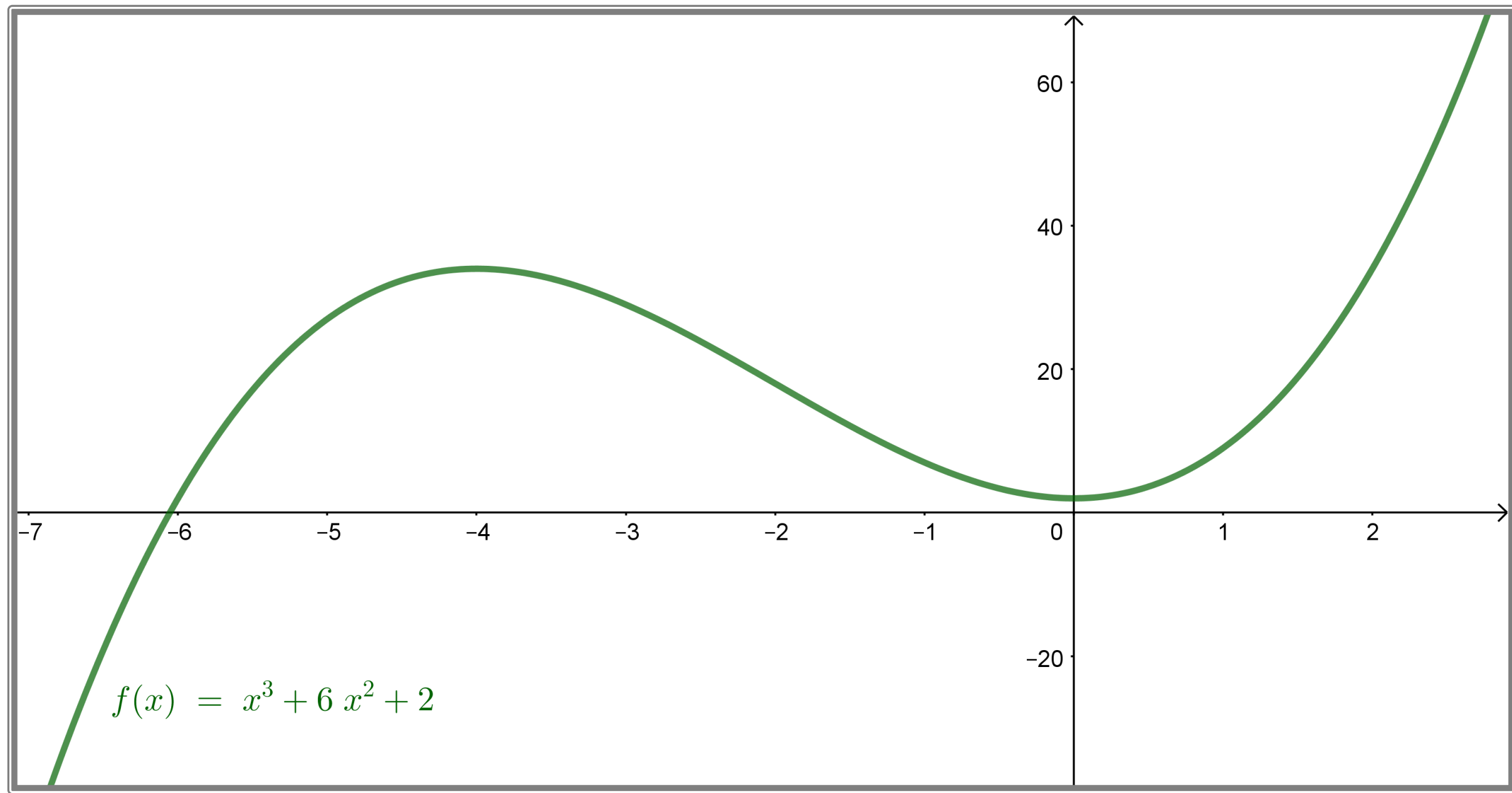


# 6.5 Esquisse de la courbe décrite par une fonction

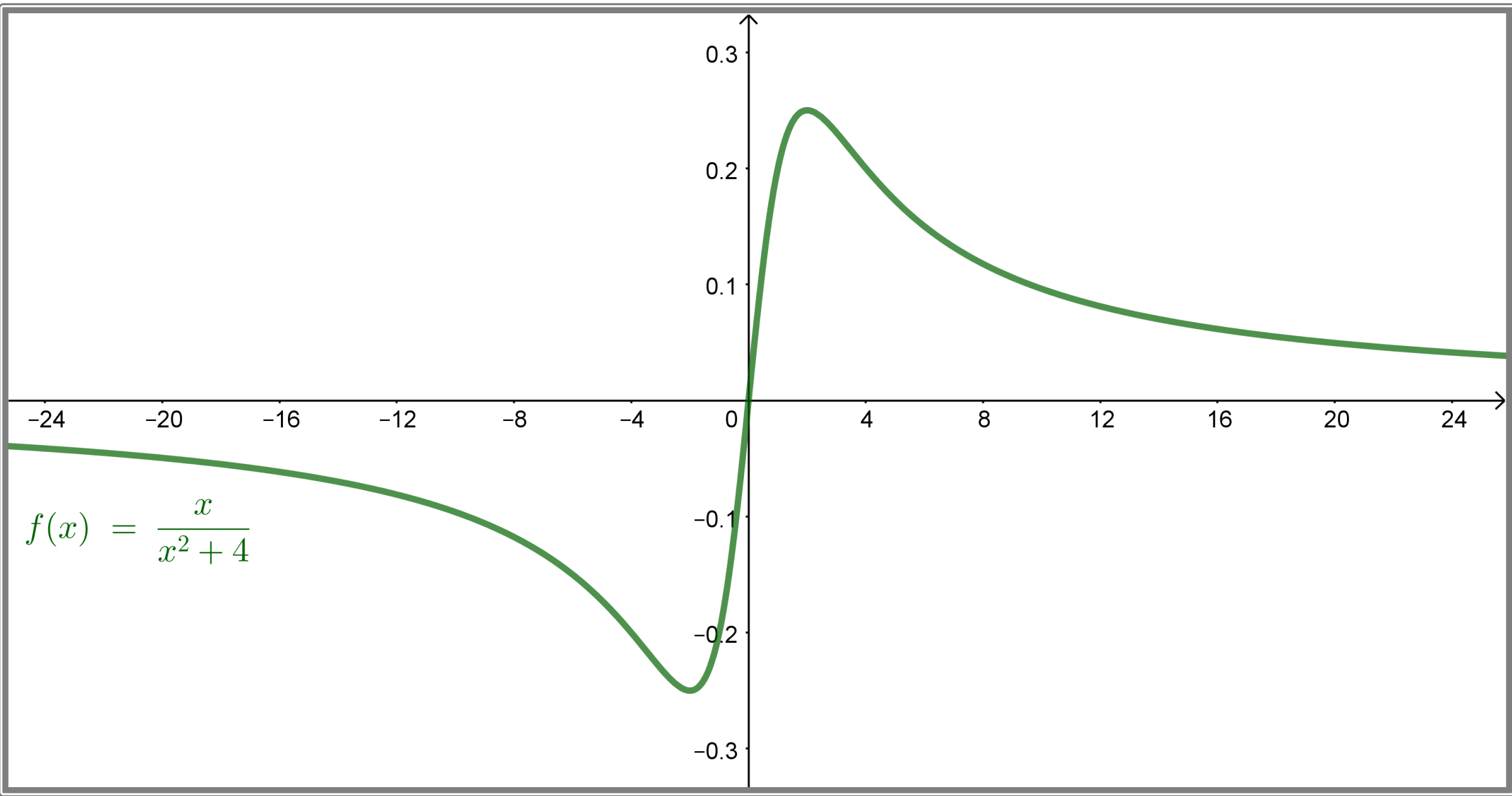
Cégep de Sherbrooke  
Calcul différentiel (201-SN2-RE)  
Hiver 2025

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

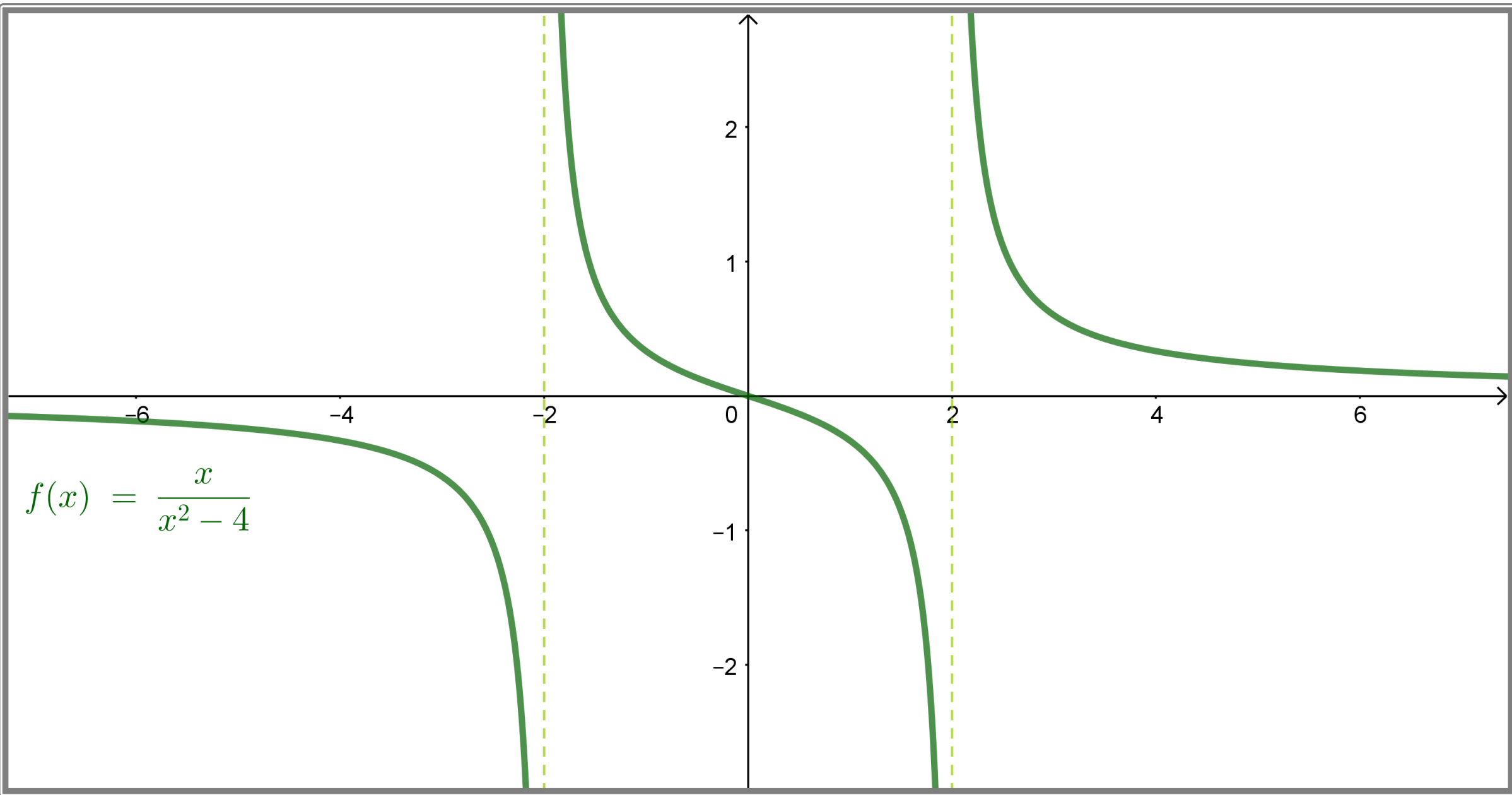




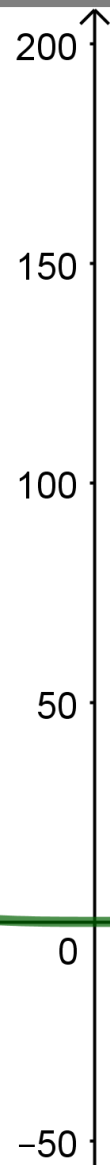
$$f(x) = \frac{x}{x^2 + 4}$$

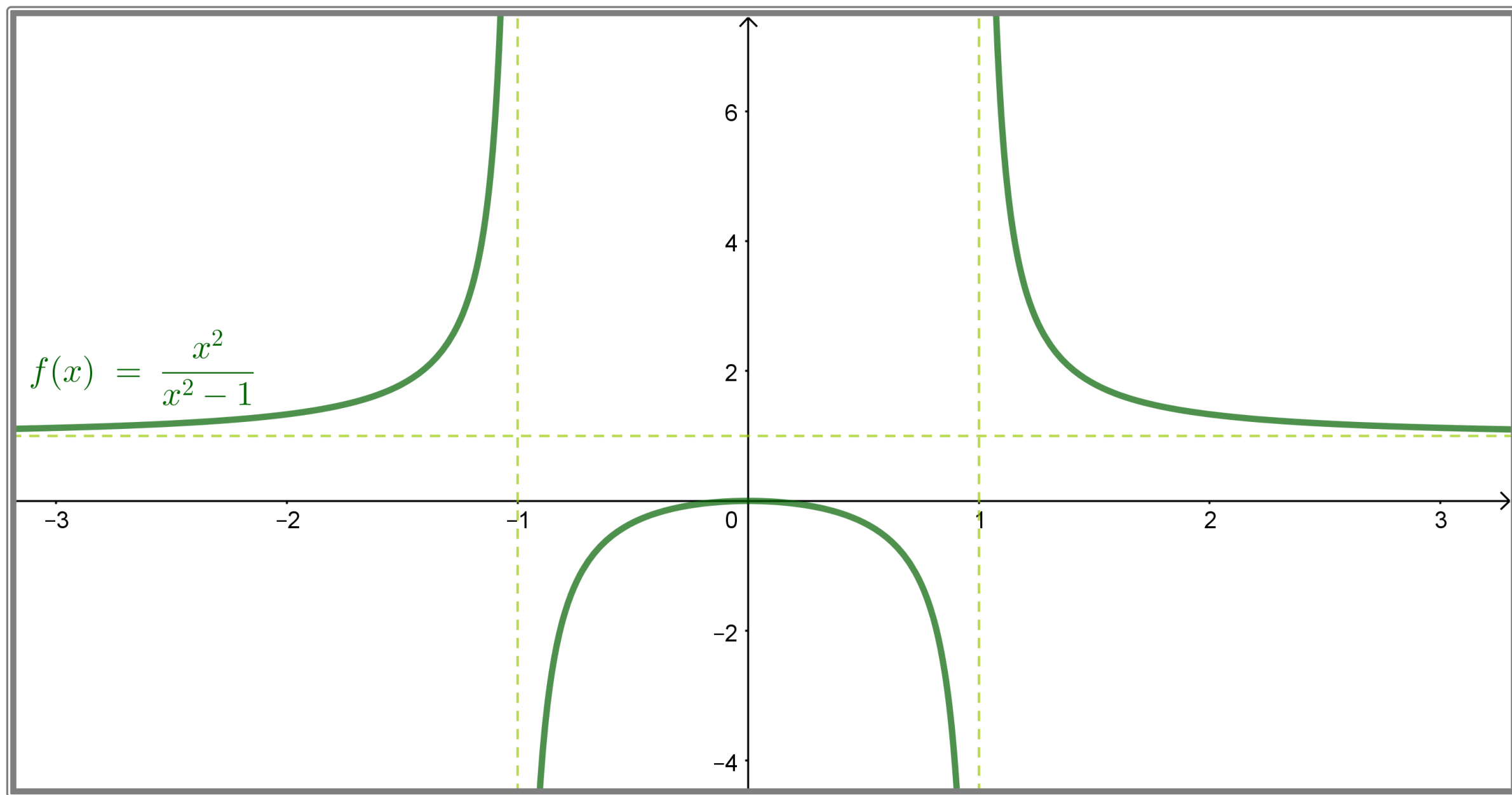


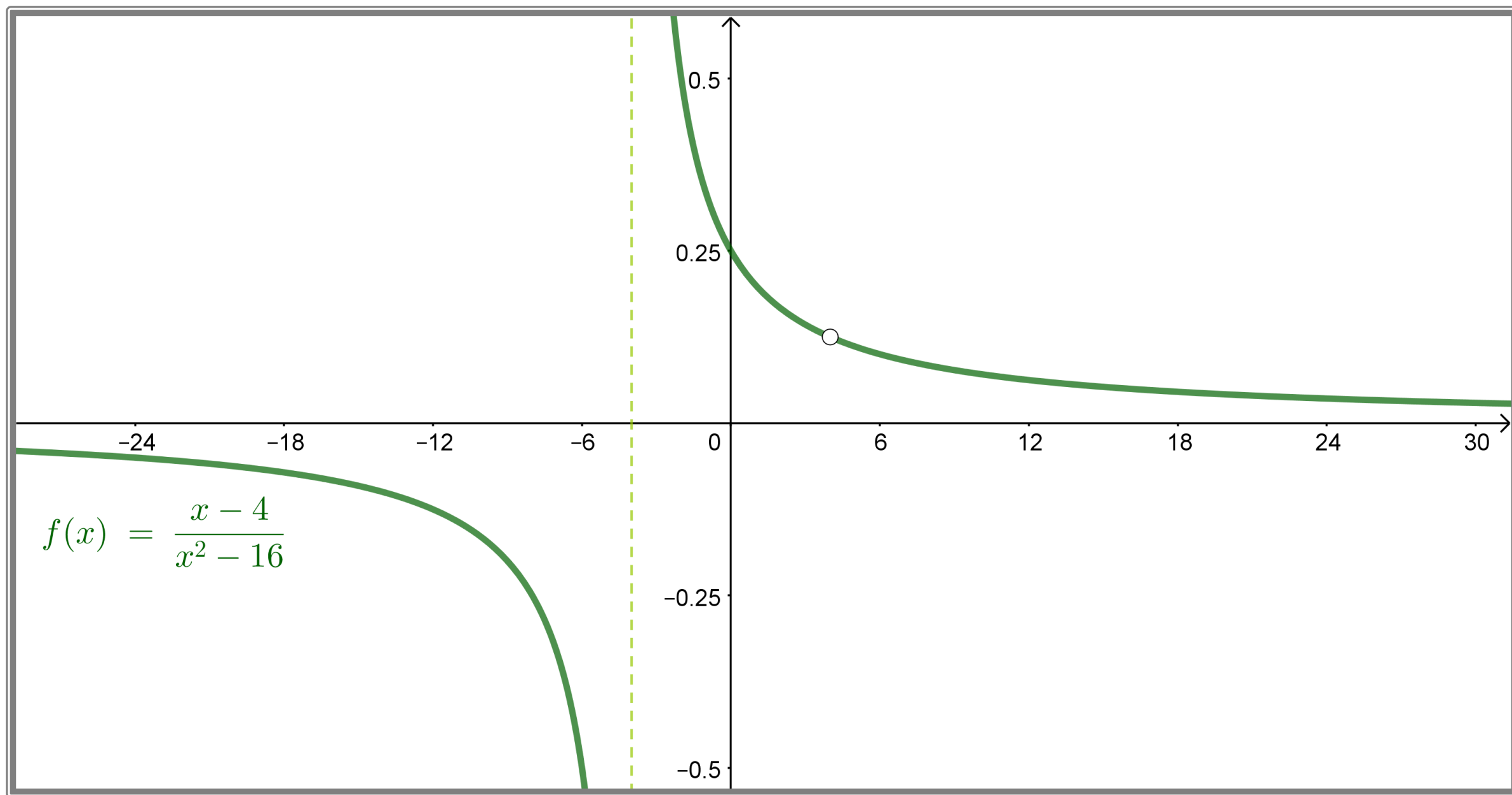
$$f(x) = \frac{x}{x^2 - 4}$$

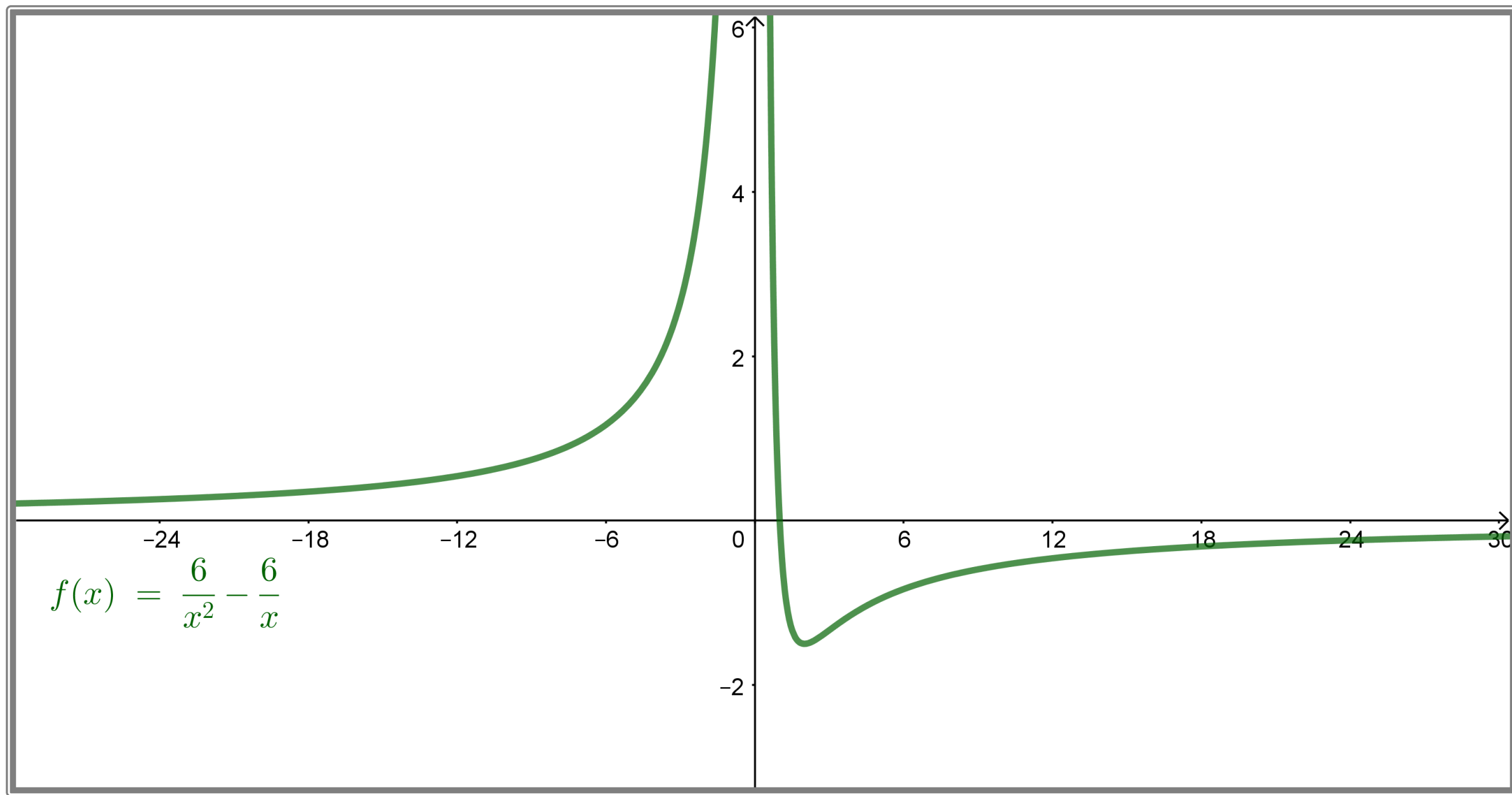


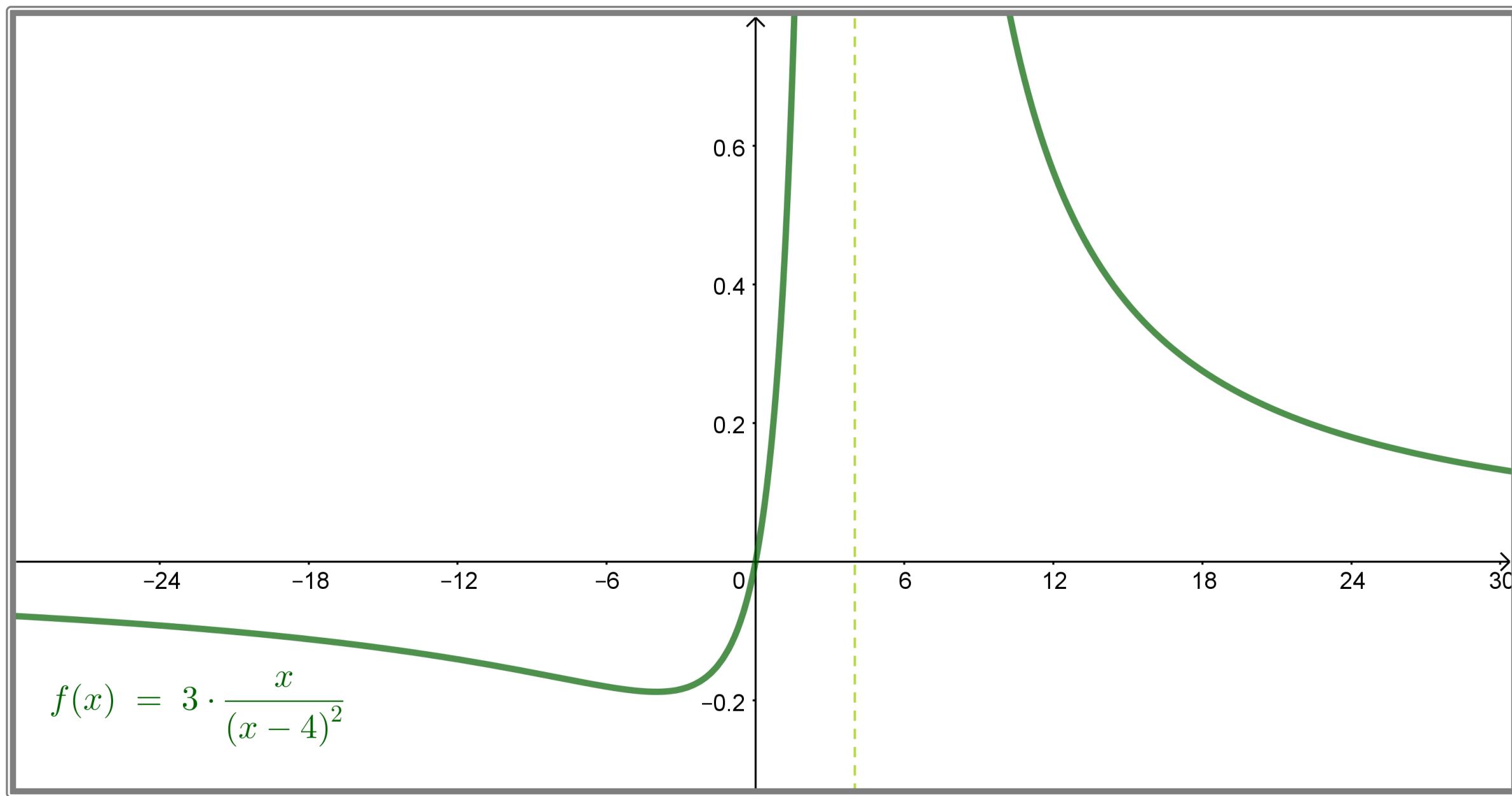
$$f(x) = \frac{x^3}{x-3}$$



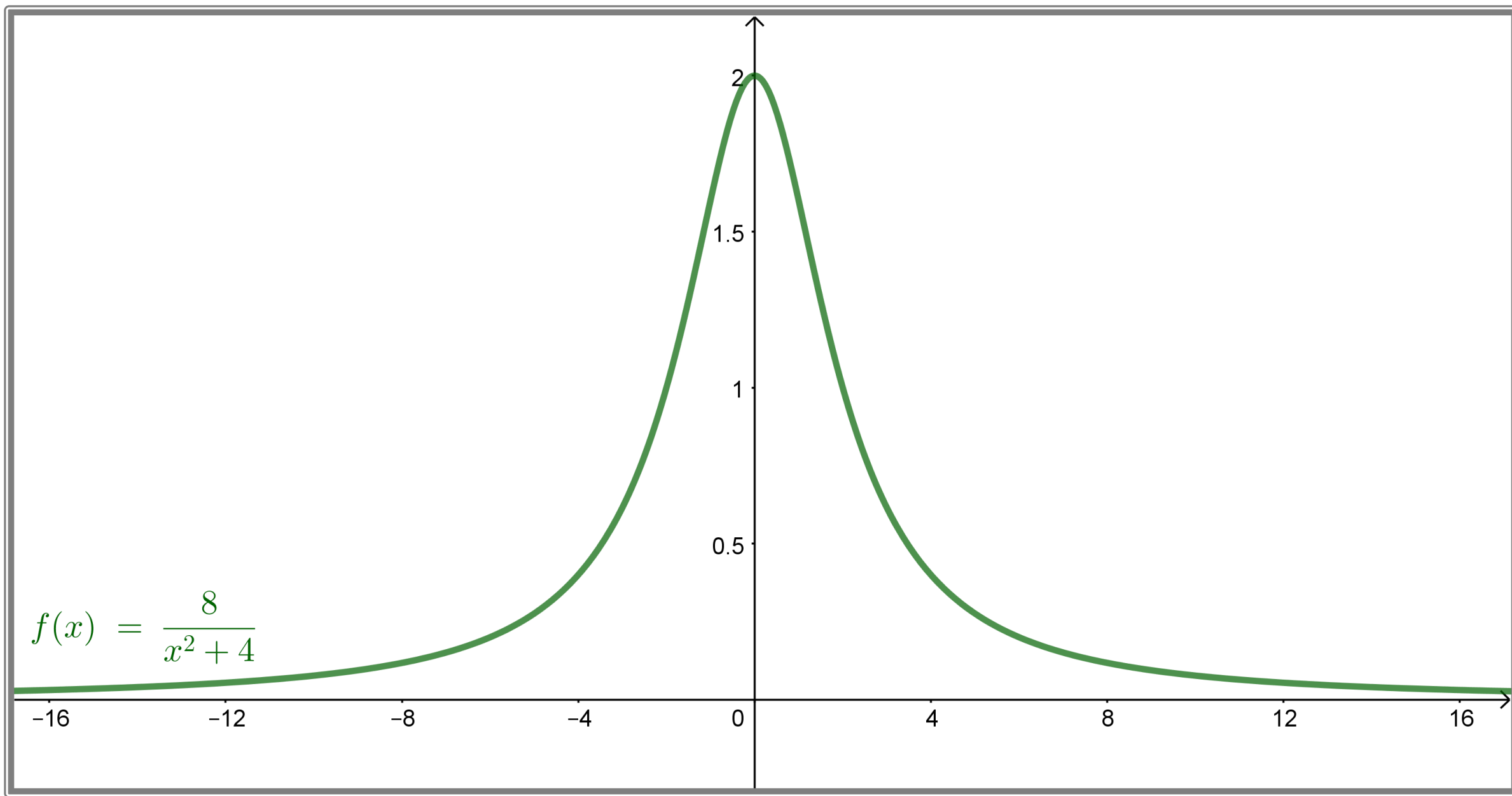




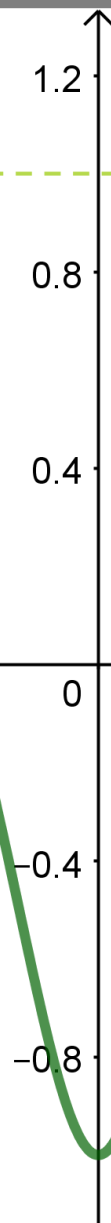




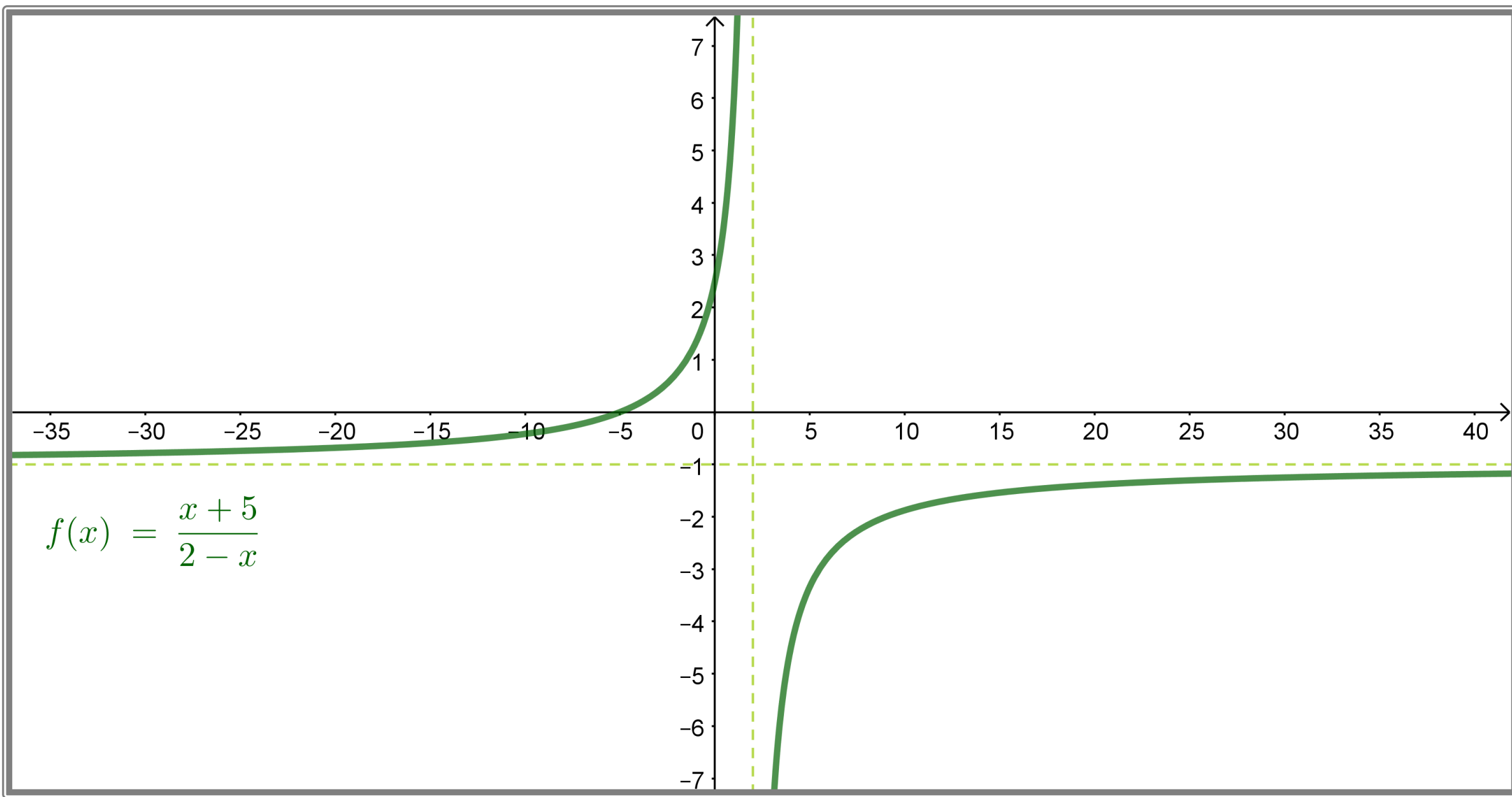
$$f(x) = \frac{8}{x^2 + 4}$$

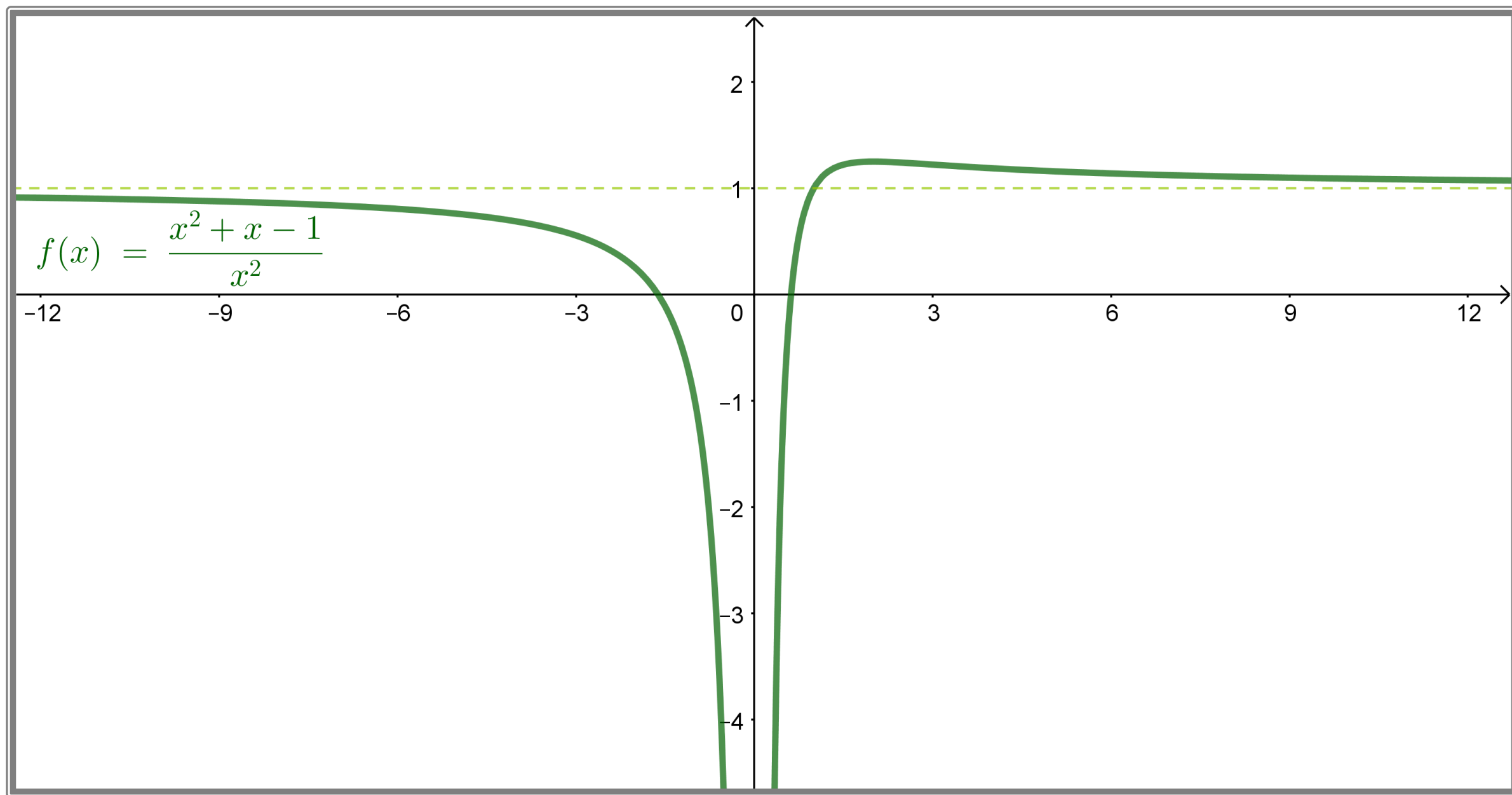


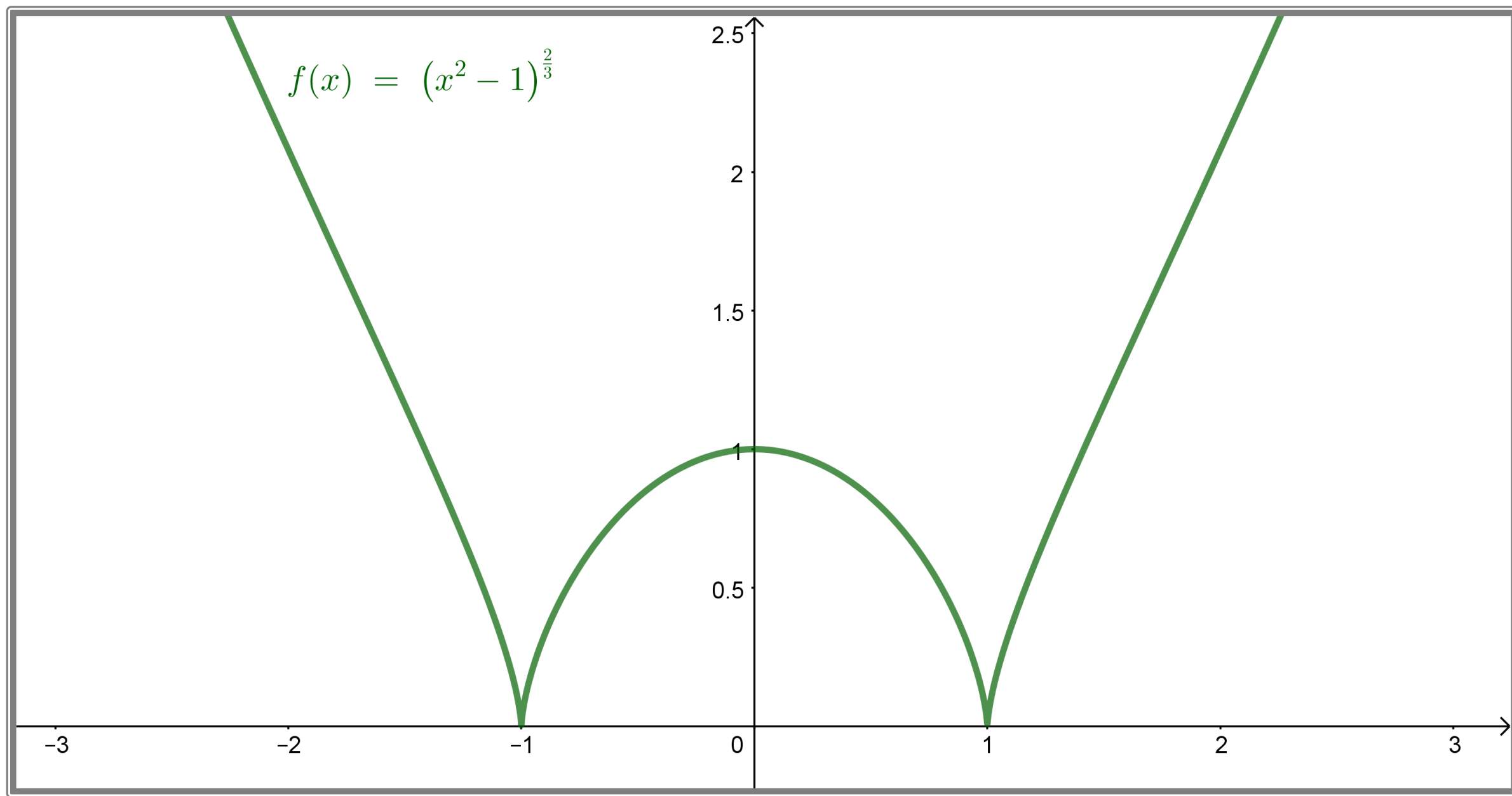
$$f(x) = \frac{x^2 - 1}{x^2 + 1}$$

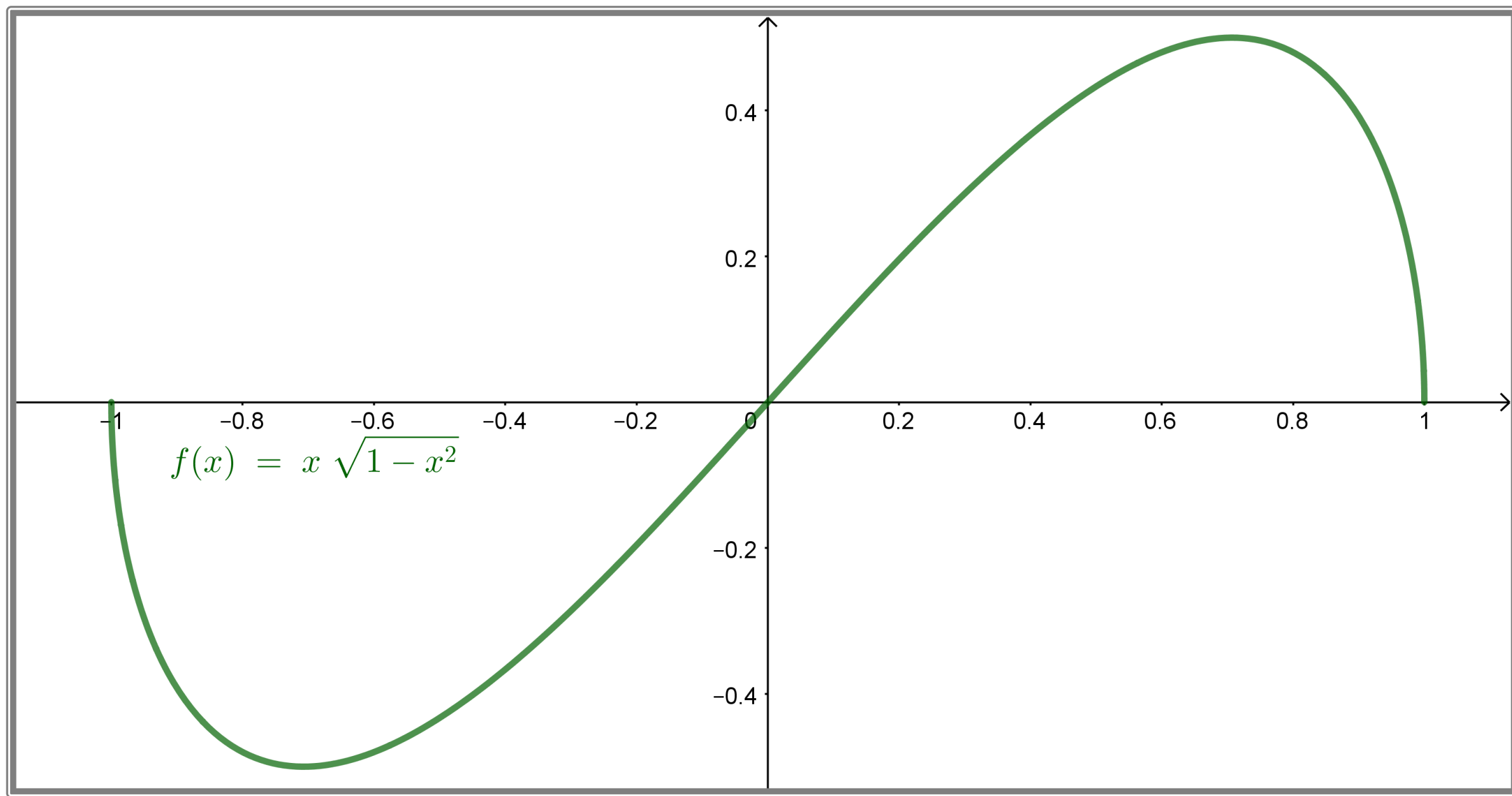


$$f(x) = \frac{x + 5}{2 - x}$$

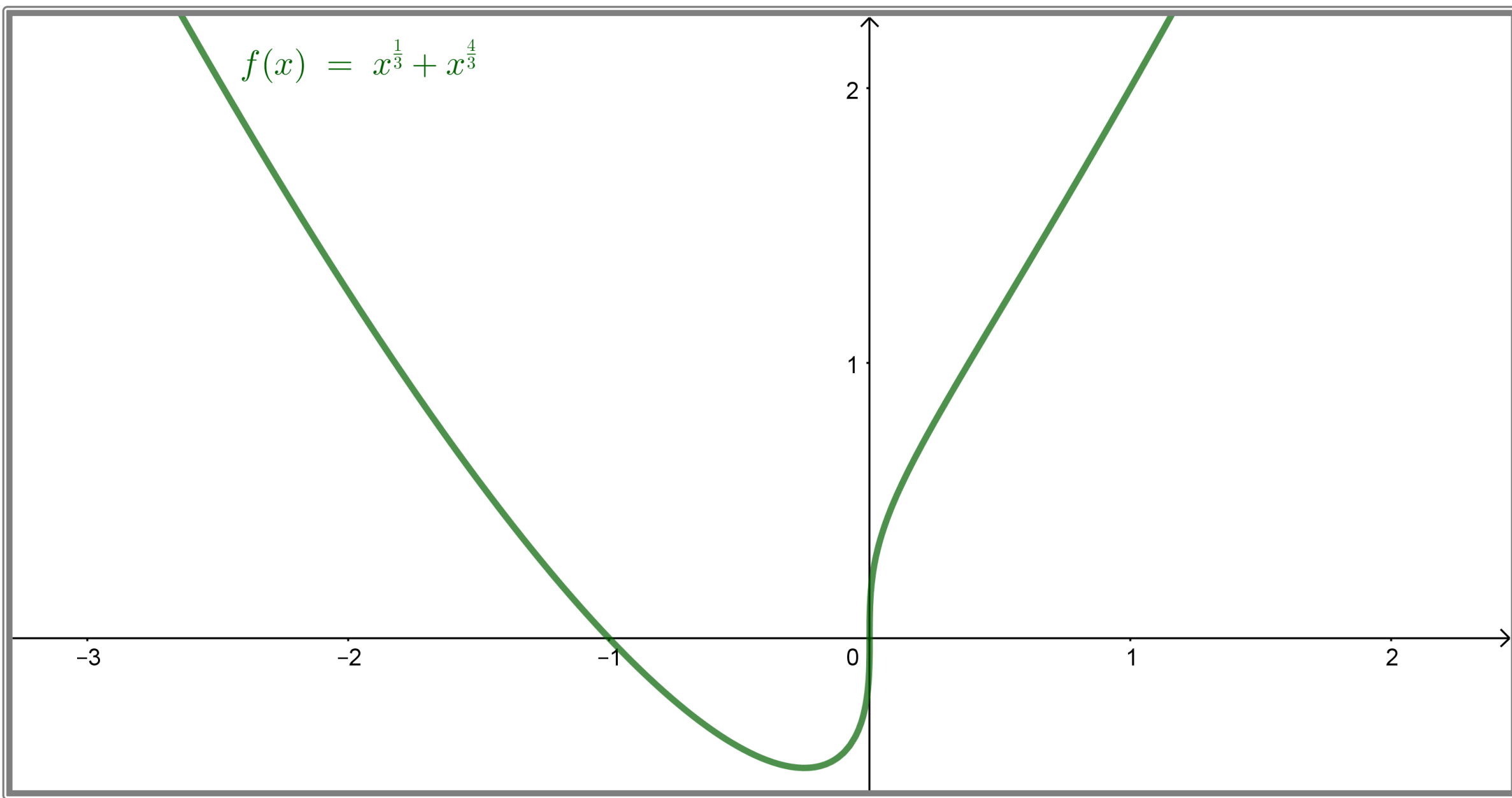


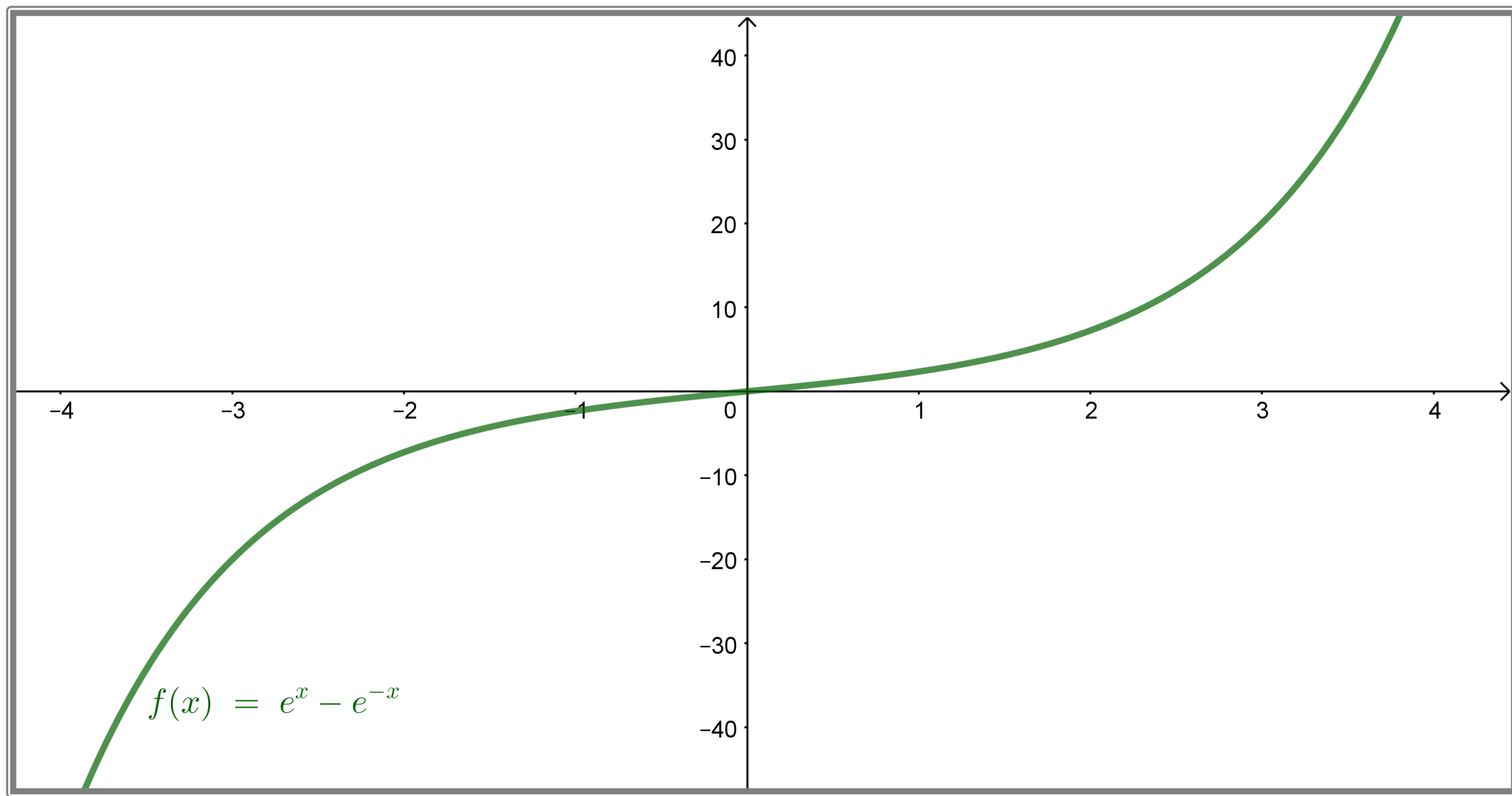


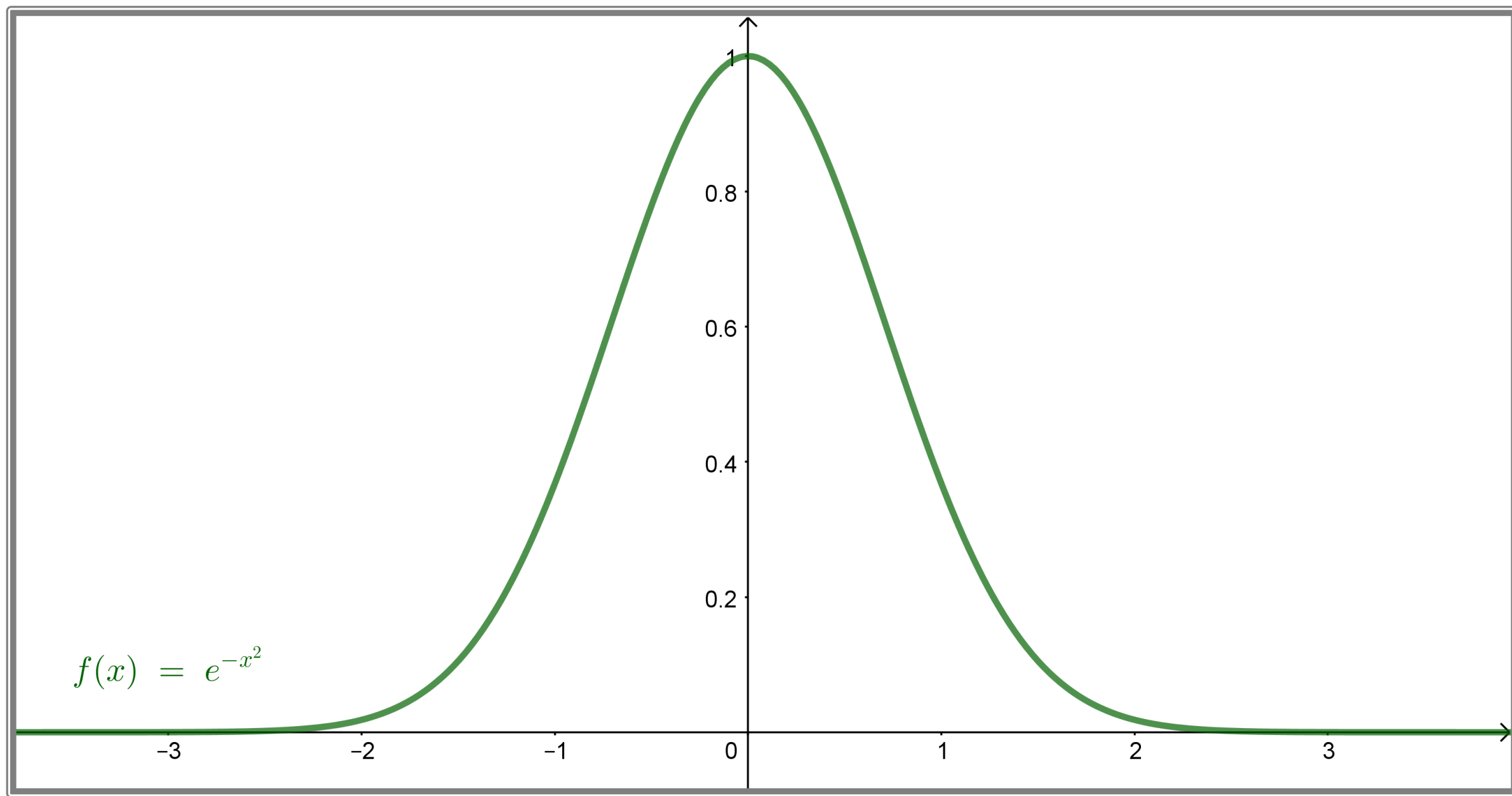


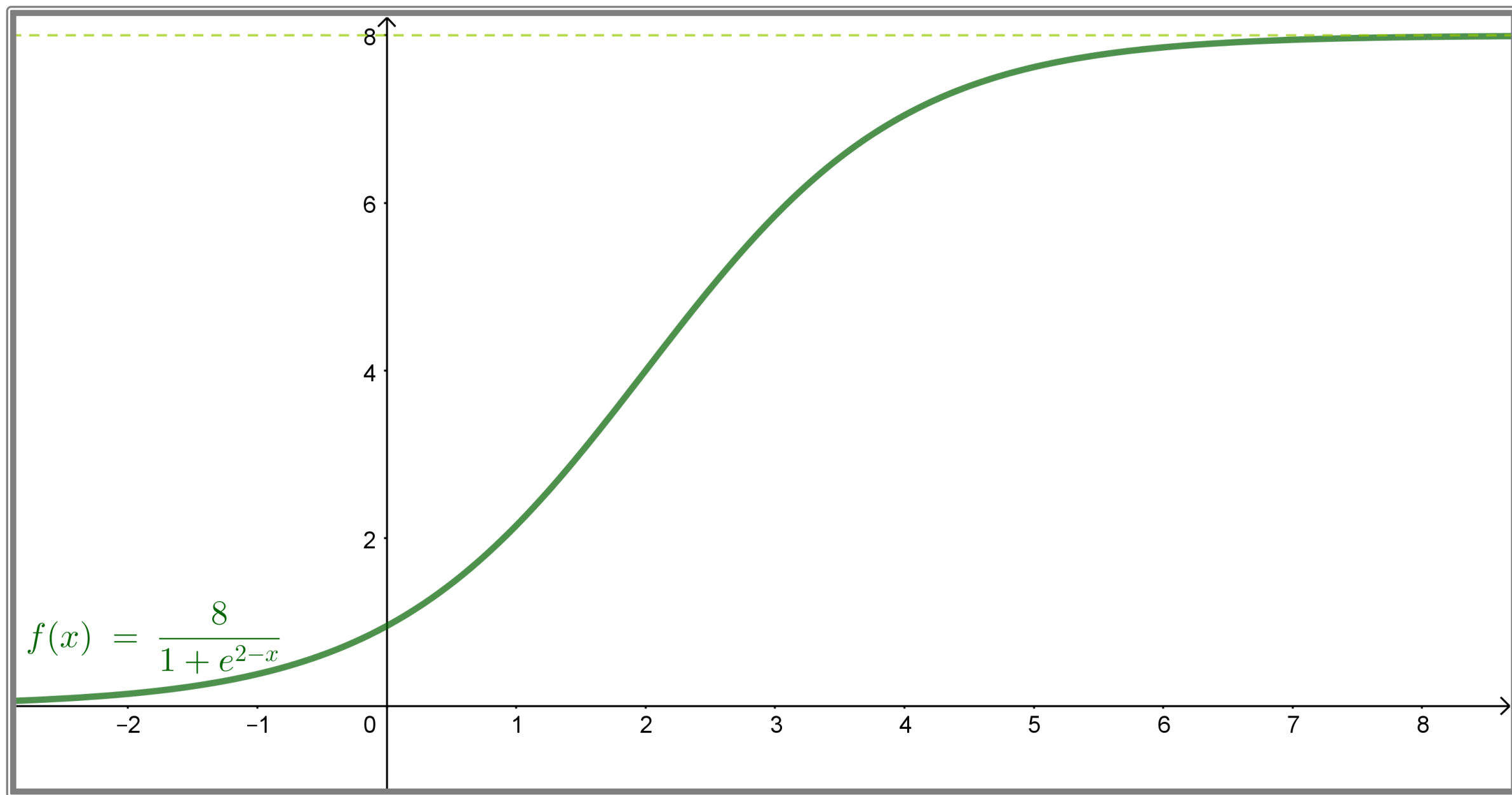


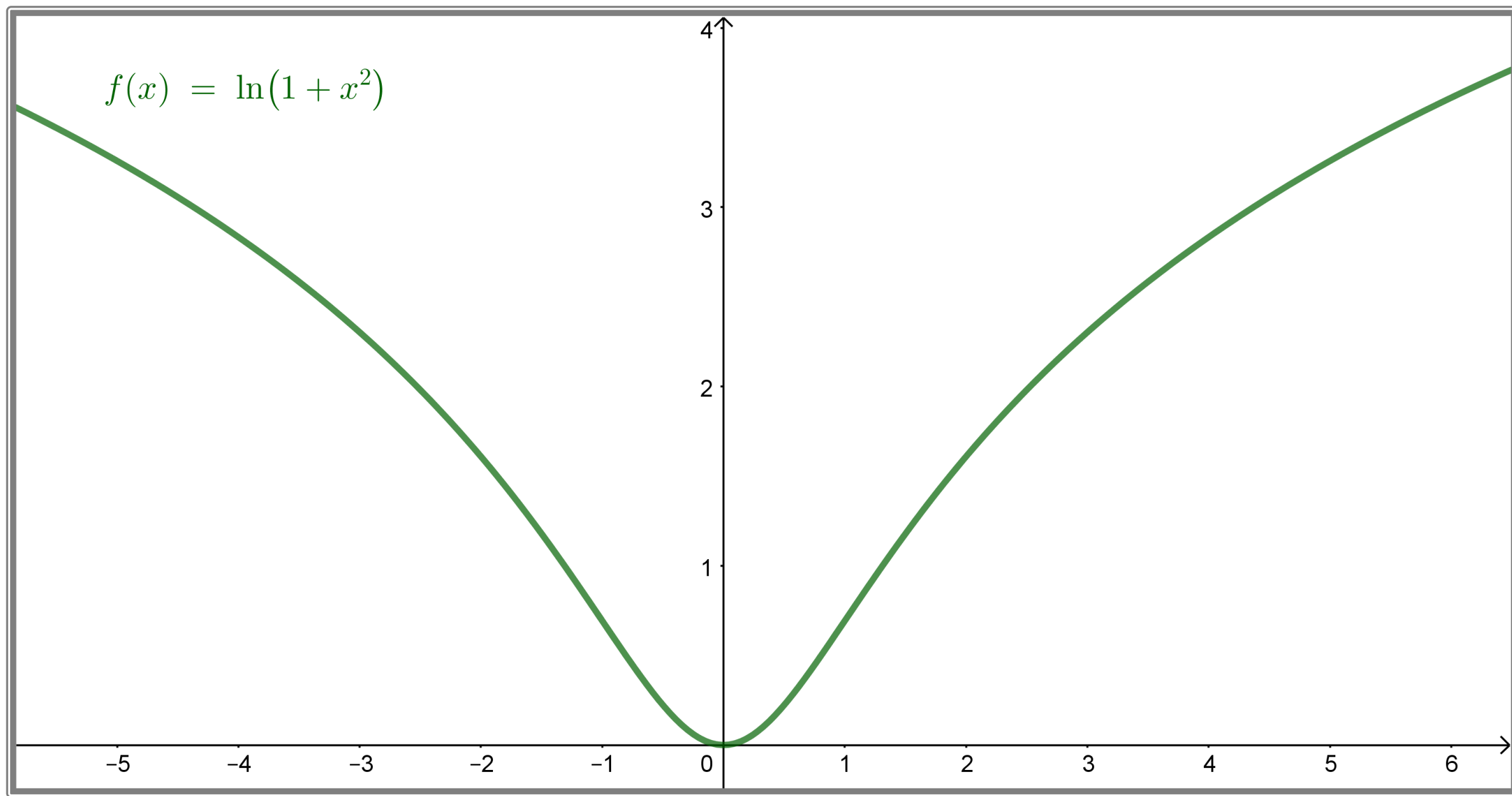
$$f(x) = x^{\frac{1}{3}} + x^{\frac{4}{3}}$$

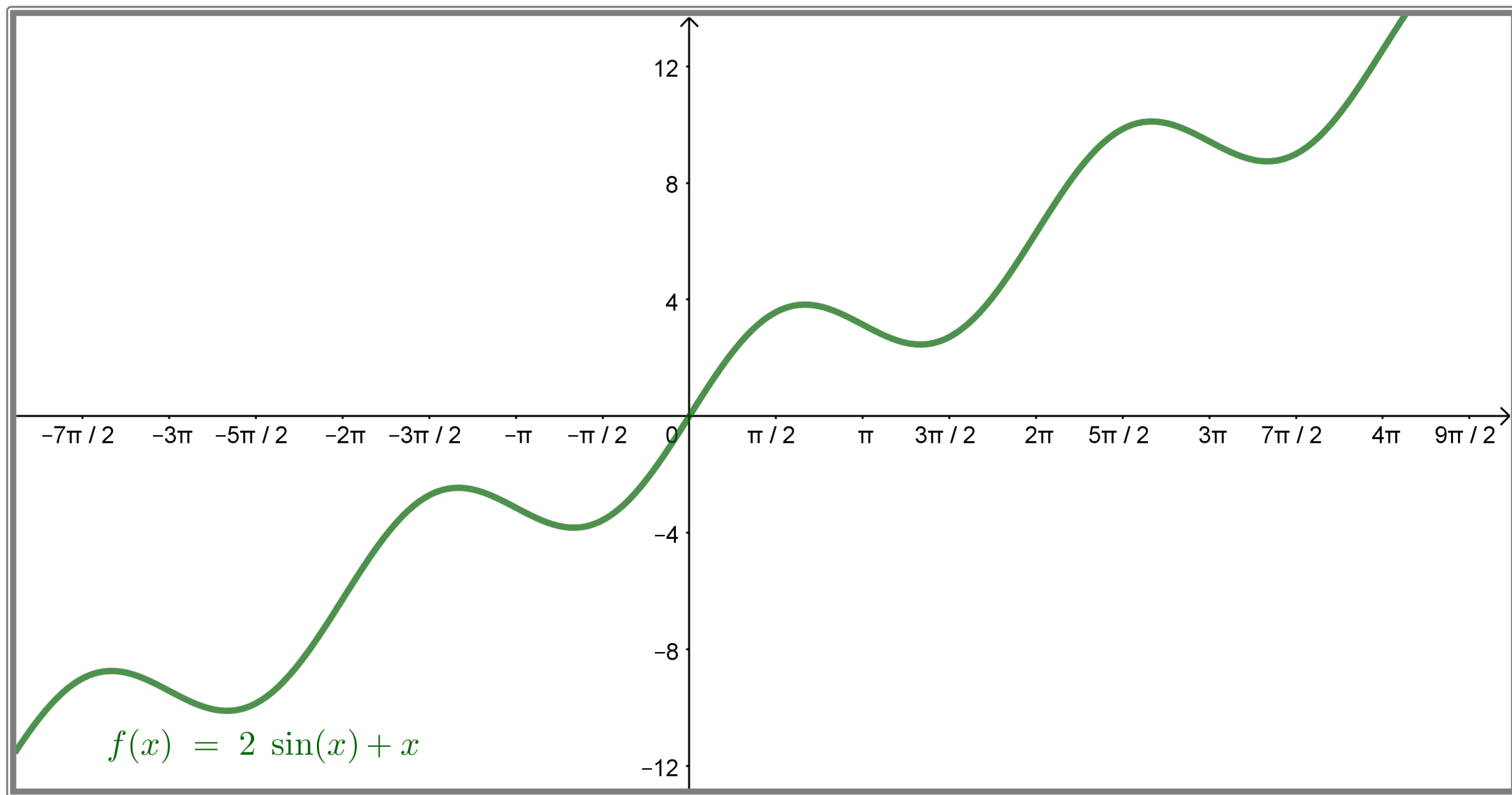


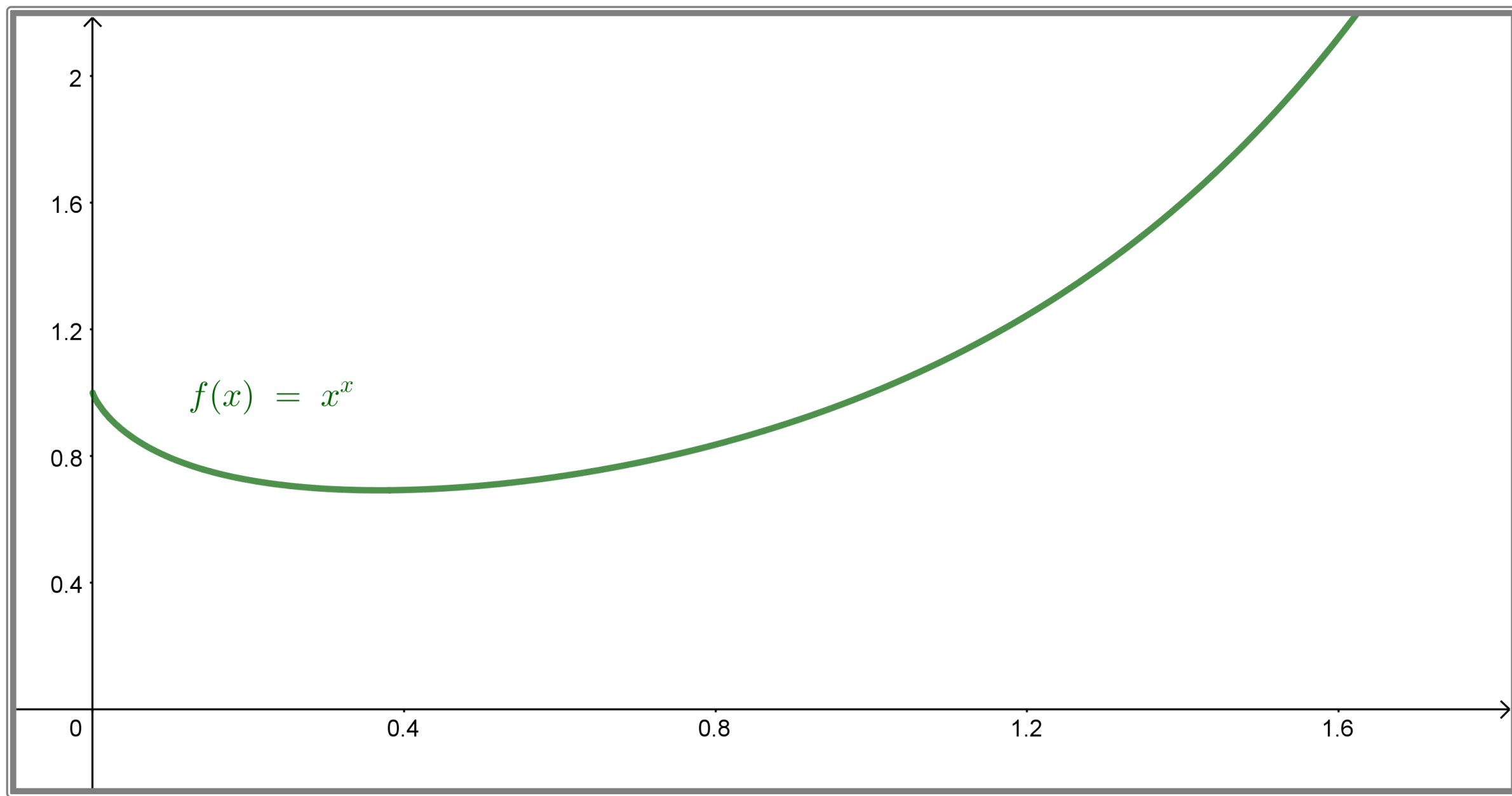












## **Procédure en 6 étapes pour esquisser la courbe décrite par une fonction $f(x)$**

### **1. Détermination du domaine de $f(x)$ , de son ordonnée à l'origine et de ses zéros**

- Domaine de  $f$  : voir annexe A.12 et section 6.1.
- Ordonnée à l'origine de  $f$  : évaluer  $f(0)$ .
- Zéros de  $f$  : résoudre  $f(x) = 0$ .

### **2. Recherche des asymptotes horizontales et verticales**

- Asymptotes horizontales : voir sections 1.2.6 et 6.2.
- Asymptotes verticales : voir sections 1.2.4 et 6.2.

### **3. Détermination des valeurs critiques de $f(x)$**

- Voir section 5.1.

### **4. Détermination des valeurs critiques de $f'(x)$**

- Voir sections 5.1 et 6.4.

### **5. Construction du tableau des signes**

- Voir sections 5.1 et 6.4.

### **6. Esquisse de la courbe décrite par $f(x)$**

- Se baser sur les informations collectées aux étapes 1, 2 et 5.