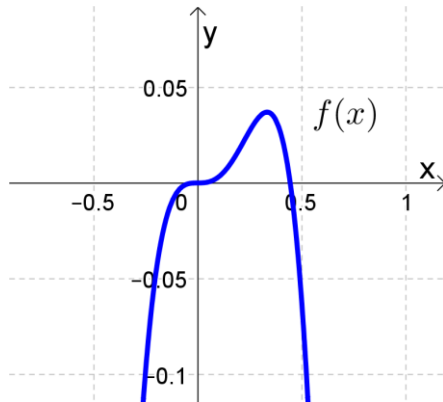


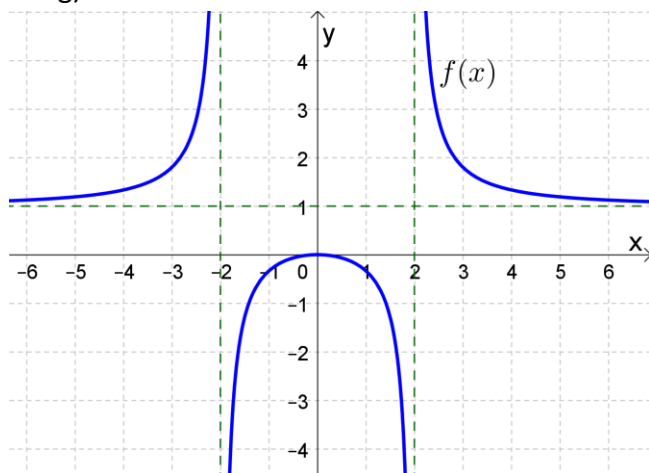
1.

- a) $(-\infty, \infty)$
 b) x -intercepts: $0, \frac{4}{9}$; y -intercept: 0
 c) $f' = 0$: $0, \frac{1}{3}$; f' DNE: Nowhere; $f'' = 0$: $0, \frac{2}{9}$; f'' DNE: Nowhere
 d) TODO
 e) Local max: $(\frac{1}{3}, \frac{1}{27})$; Inflection points: $(0,0)$ and $(\frac{2}{9}, \frac{16}{729})$
 f)



2.

- a) $(-\infty, -2) \cup (-2, 2) \cup (2, \infty)$
 b) x -intercept: 0 ; y -intercept: 0
 c) Vertical asymptotes: $x = -2$ and $x = 2$; Horizontal asymptote: $y = 1$
 d) $f' = 0$: 0 ; f' DNE: $-2, 2$; $f'' = 0$: Nowhere; f'' DNE: $-2, 2$
 e) TODO
 f) Local max: $(0, 0)$
 g)



3.

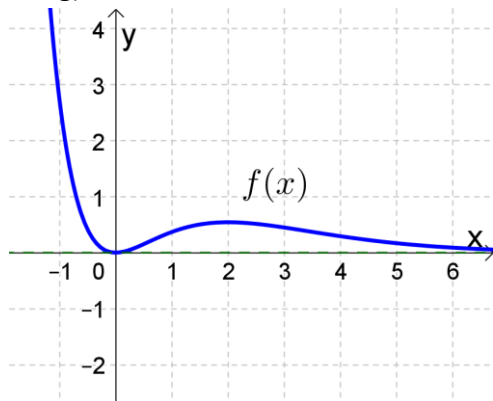
- a) $(-\infty, \infty)$
 b) x -intercept: 0 ; y -intercept: 0
 c) Vertical asymptotes: none; Horizontal asymptote: $y = 0$

d) $f' = 0$: $0, 2$; f' DNE: Nowhere; $f'' = 0$: $2 - \sqrt{2}, 2 + \sqrt{2}$; f'' DNE: Nowhere

e) TODO

f) Local max: $(2, \frac{4}{e^2})$; Local min: $(0, 0)$; Inflection points: $(0.59, 0.19)$ and $(3.41, 0.38)$

g)



4.

a) $(0, \infty)$

b) x -intercept: 1; y -intercept: none

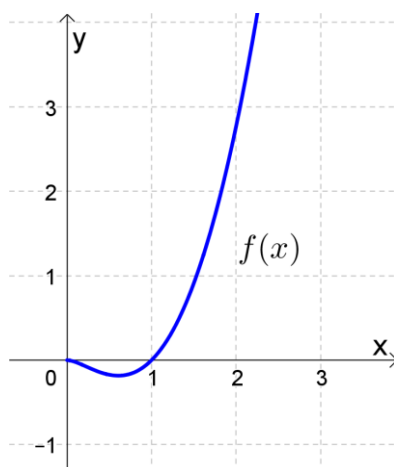
c) Vertical asymptotes: none; Horizontal asymptote: none

d) $f' = 0$: $\frac{1}{\sqrt{e}}$; f' DNE: Nowhere; $f'' = 0$: Nowhere; f'' DNE: Nowhere (Note: $x = 0$ is at the edge of the domain of the function, so we don't have to worry about it as a possible x -value for a change in concavity)

e) TODO

f) Local min: $(\frac{1}{\sqrt{e}}, -\frac{1}{2e})$

g)



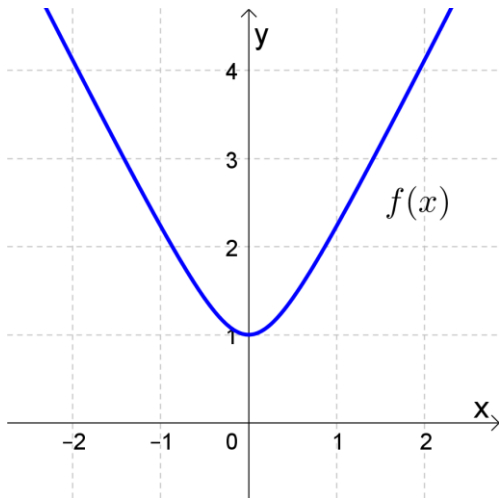
5.

a) $(-\infty, \infty)$

b) x -intercept: none; y -intercept: 1

c) $f' = 0$: 0; f' DNE: Nowhere; $f'' = 0$: Nowhere; f'' DNE: Nowhere

- d) TODO
 e) Local max: none; Local min: $(0, 1)$; Inflection points: none
 f)



6.

- a) $(-\infty, \infty)$
 b) x -intercepts: $0, 1$; y -intercept: 0
 c) $f' = 0$: $\frac{2}{5}$; f' DNE: $x = 0$; $f'' = 0$: $-\frac{1}{5}$; f'' DNE: 0
 d) TODO
 e) Local max: $(0, 0)$; Local min: $(\frac{2}{5}, -0.33)$; Inflection point: $(-\frac{1}{5}, 0.21)$
 f)

