Test 1

1) 1000

2) $\dfrac{2}{x^2-1}$, $x \neq 0$, $x \neq \pm 1$

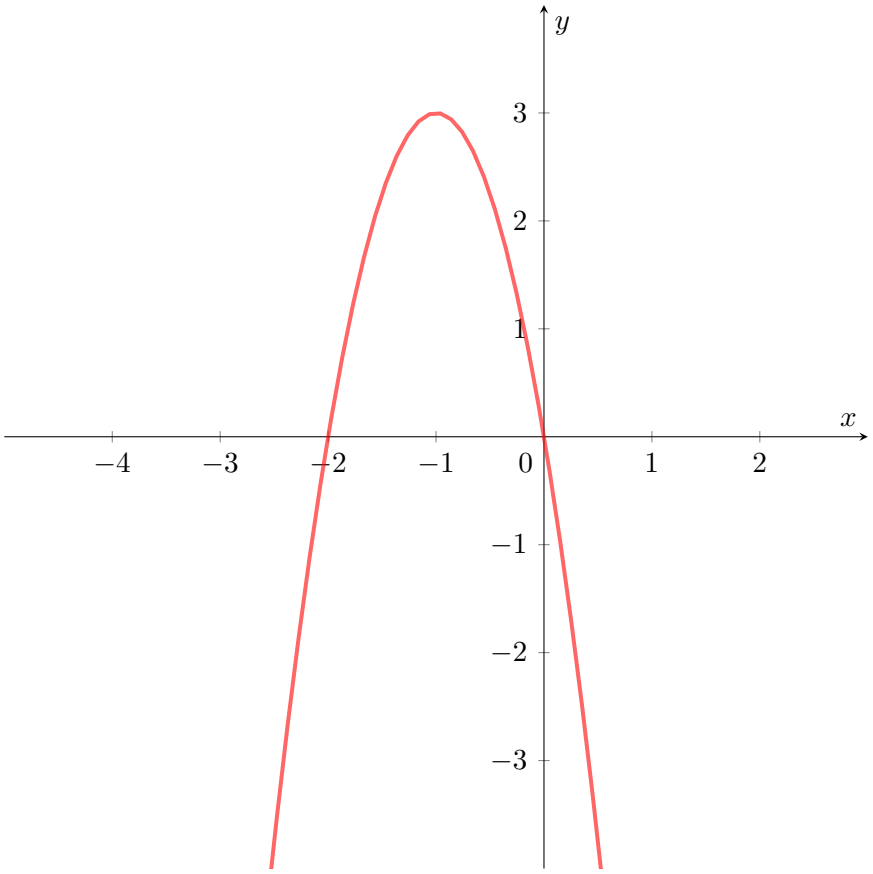
3) $x = \dfrac{19}{29}$

4) $x \in \langle -1, 4 \rangle$

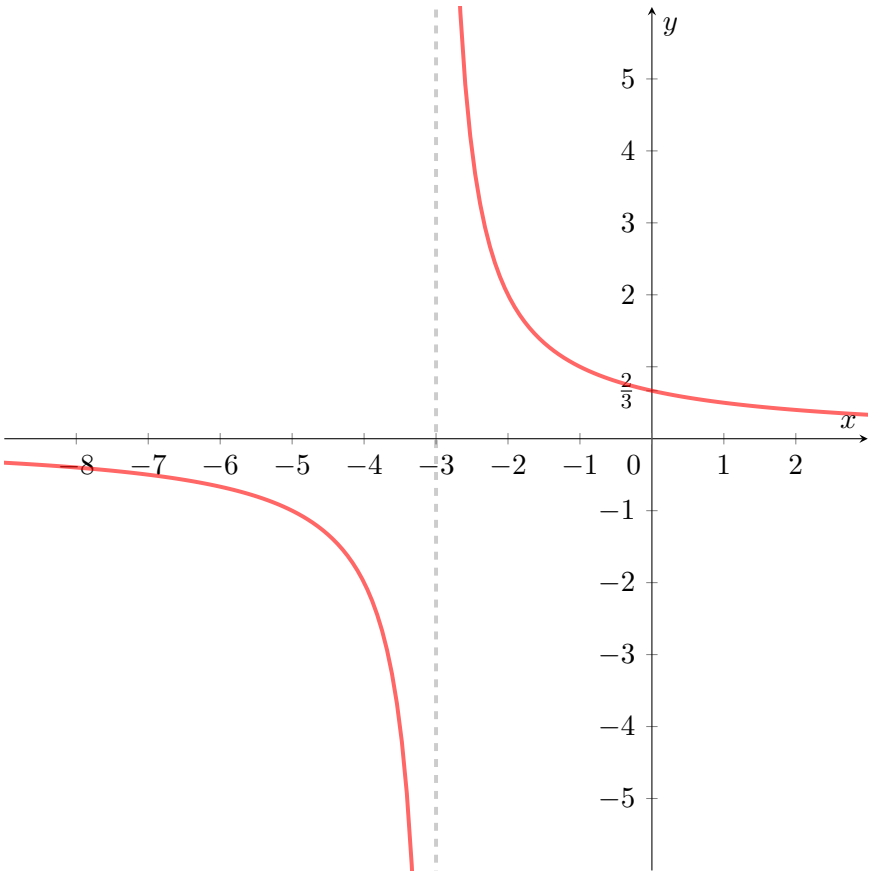
5) $x = \dfrac{1}{2}$, $y = -2$

6) $\mathrm{D}_f = (-\infty, -3\rangle \cup (3, \infty)$

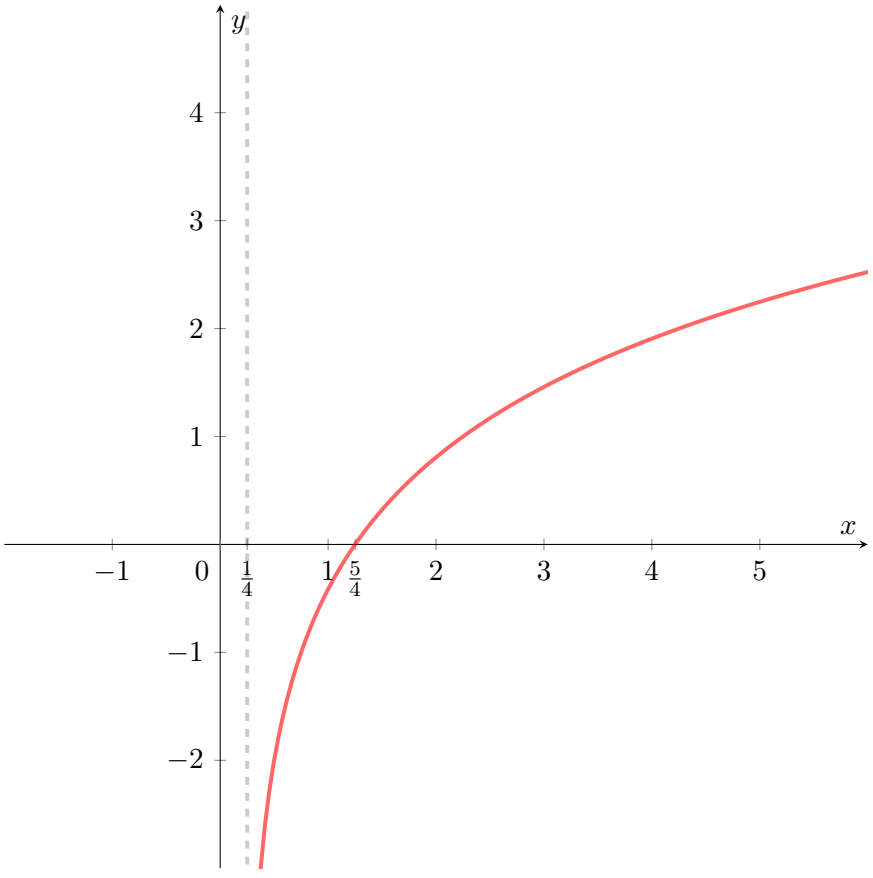
7) $y = -3x^2 - 6x$



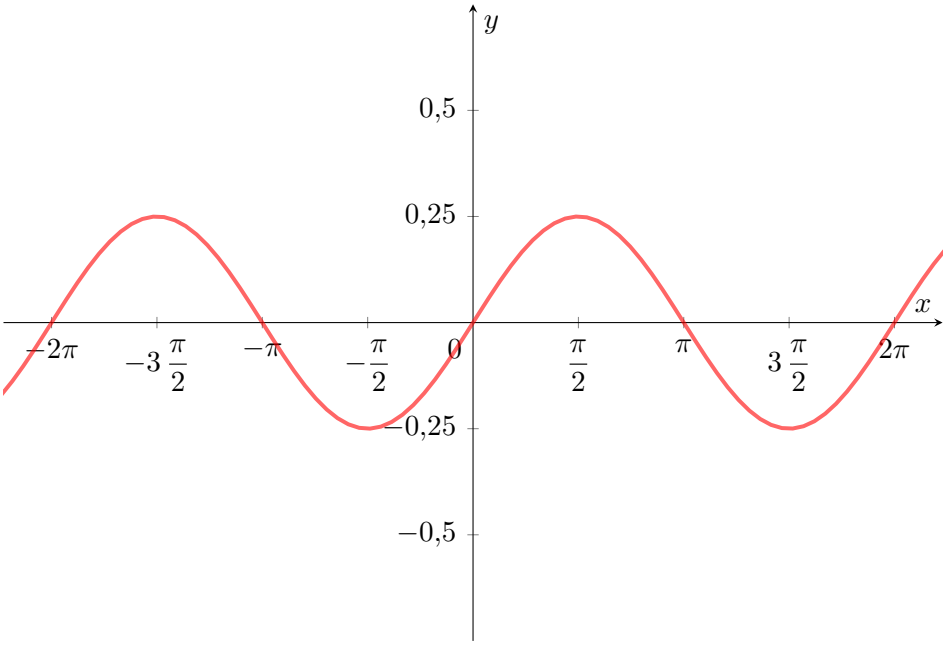
8) $y = \frac{2}{x+3}$



9) $y = \log_2\left(x - \frac{1}{4}\right)$



10) $y = \frac{1}{4}\sin 2x$



Test 2

1) $\frac{729}{4}$

2) $\frac{x+1}{x-1}$, $x \neq 0$, $x \neq \pm 1$

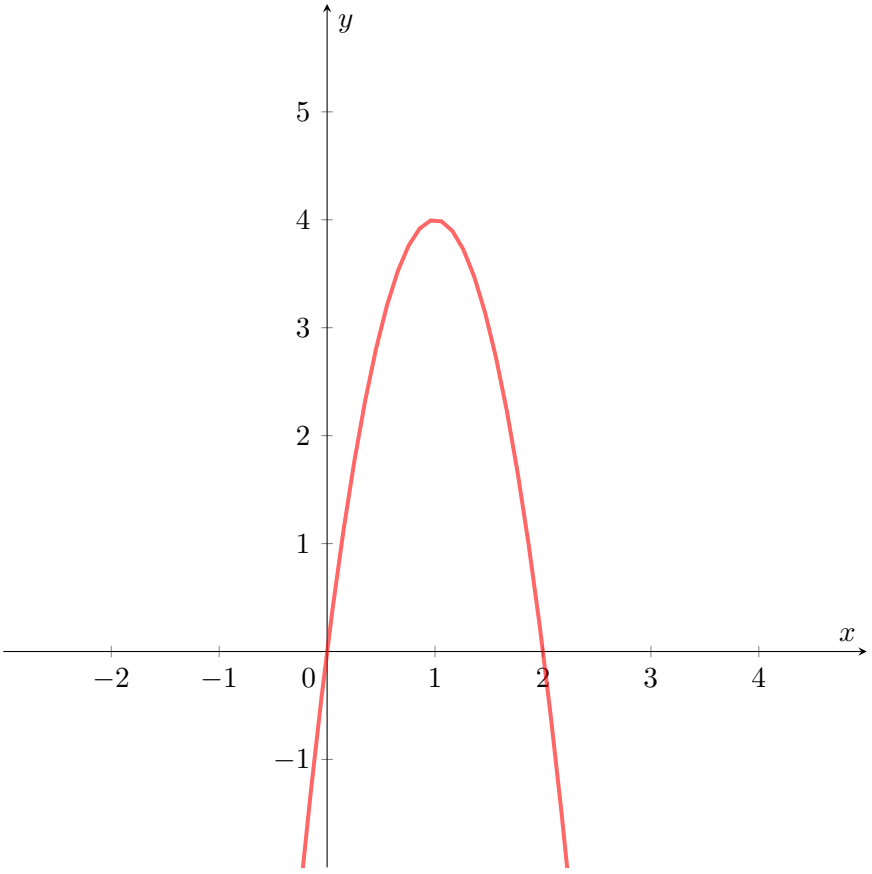
3) $x = 1$

4) $x \in (-\infty, -2\rangle \cup \langle 5, \infty)$

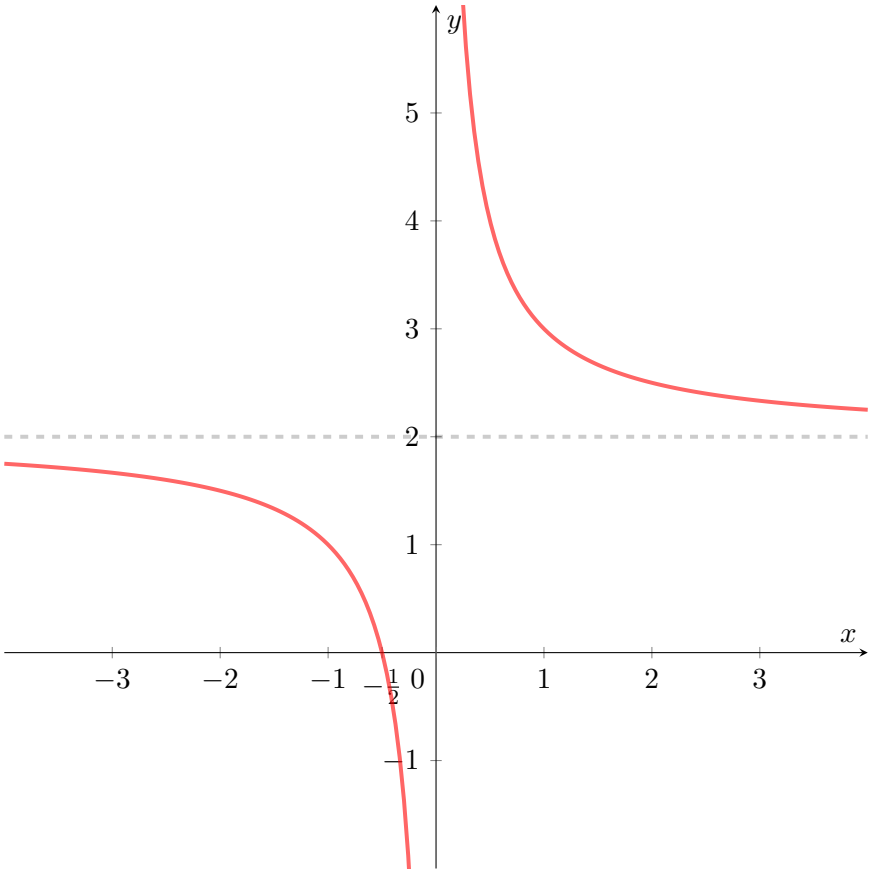
5) $x = 8$, $y = 3$

6) $\mathrm{D}_f = \left(-\infty, -\frac{5}{2}\right\rangle \cup (4, \infty)$

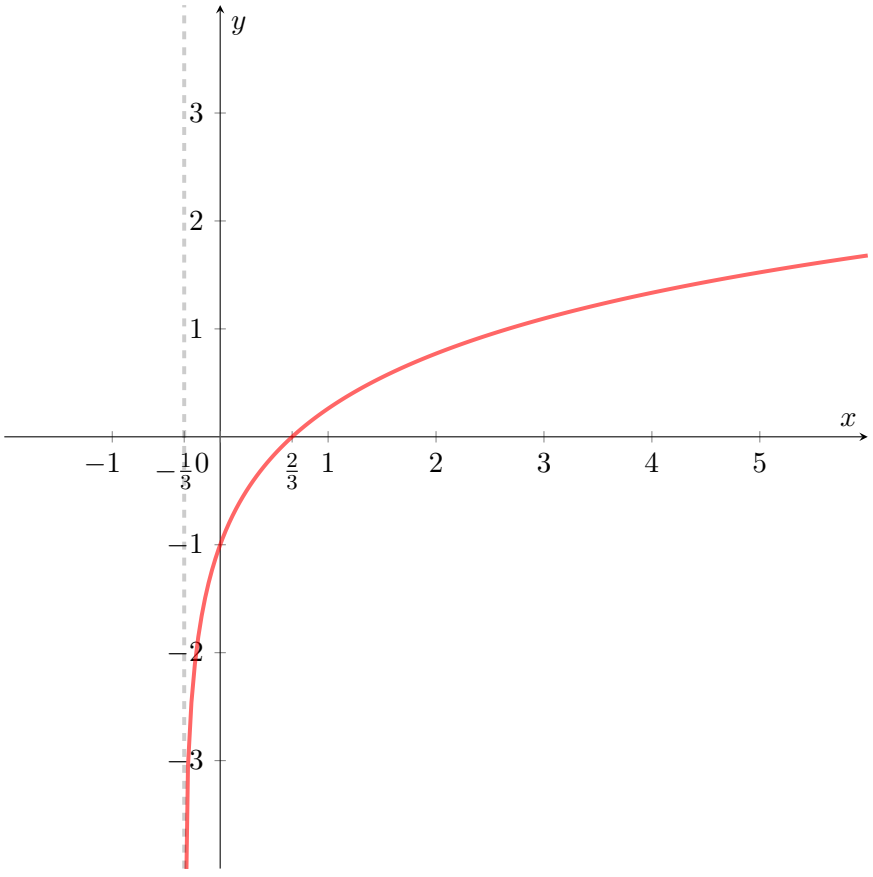
7) $y = -4x^2 + 8x$



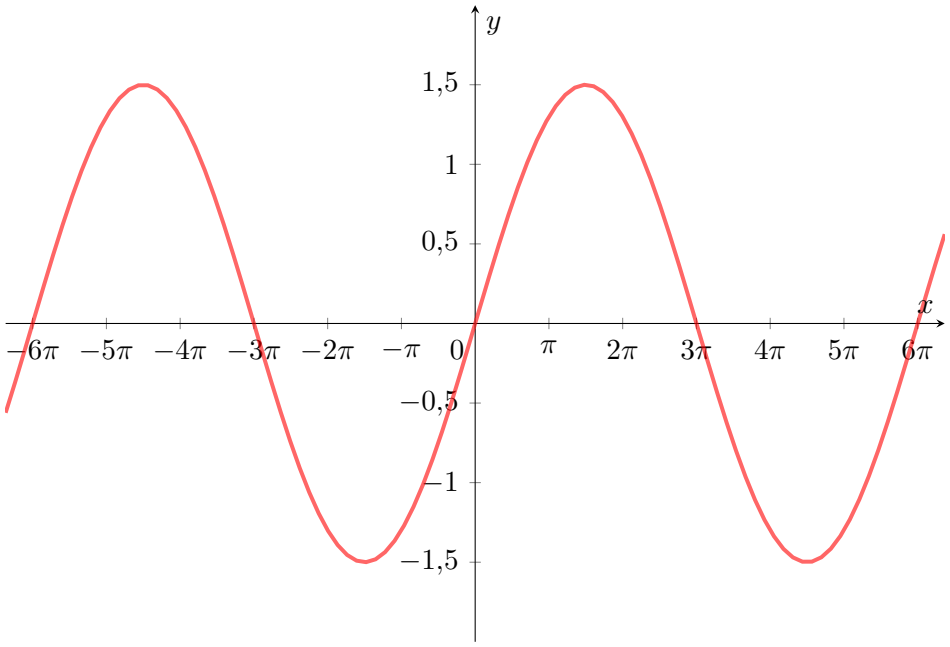
8) $y = \dfrac{1}{x} + 2$



9) $y = \log_3\left(x + \frac{1}{3}\right)$



10) $y = 1{,}5 \sin \frac{1}{3}x$



Test 3

1) $2\sqrt{6}$

2) $x + 2,\ x \neq 0,\ x \neq -2$

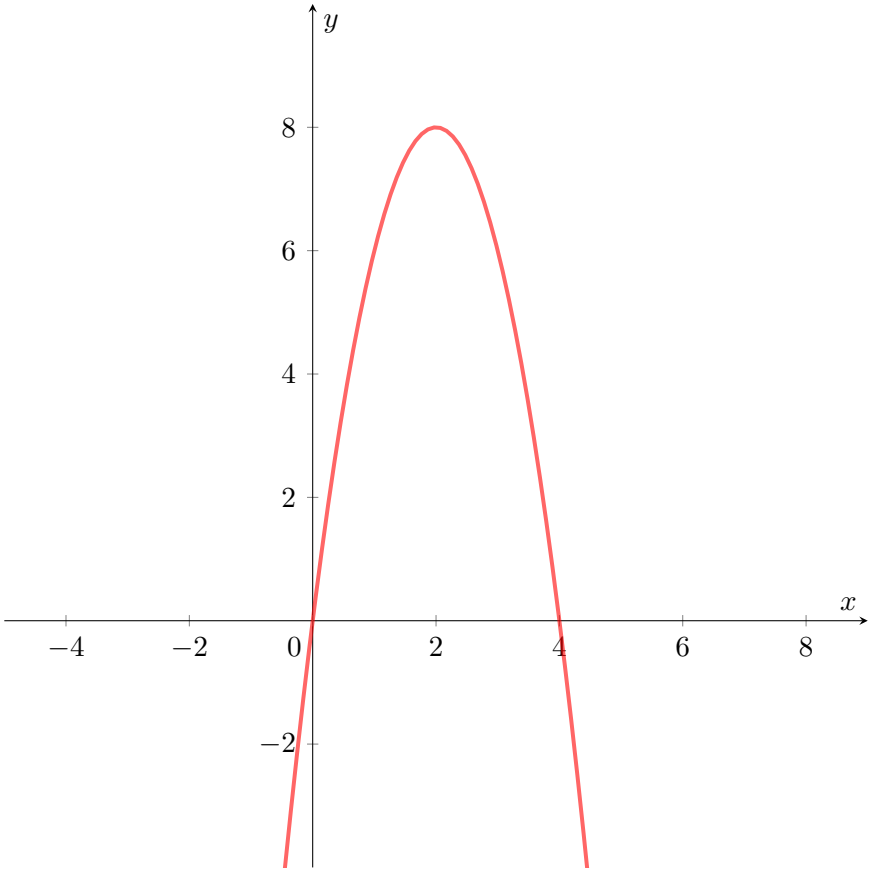
3) $x = -83$

4) $x \in \langle 3 - \sqrt{14}, 3 + \sqrt{14} \rangle$

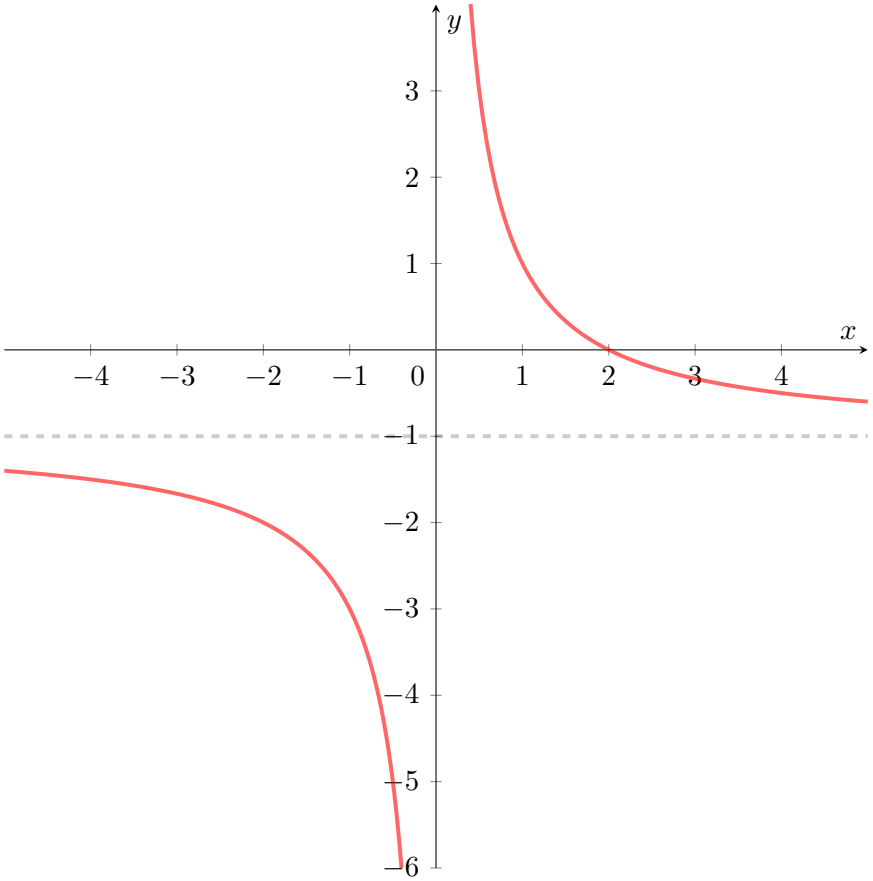
5) nemá řešení

6) $\mathrm{D}_f = (-11, 0\rangle$

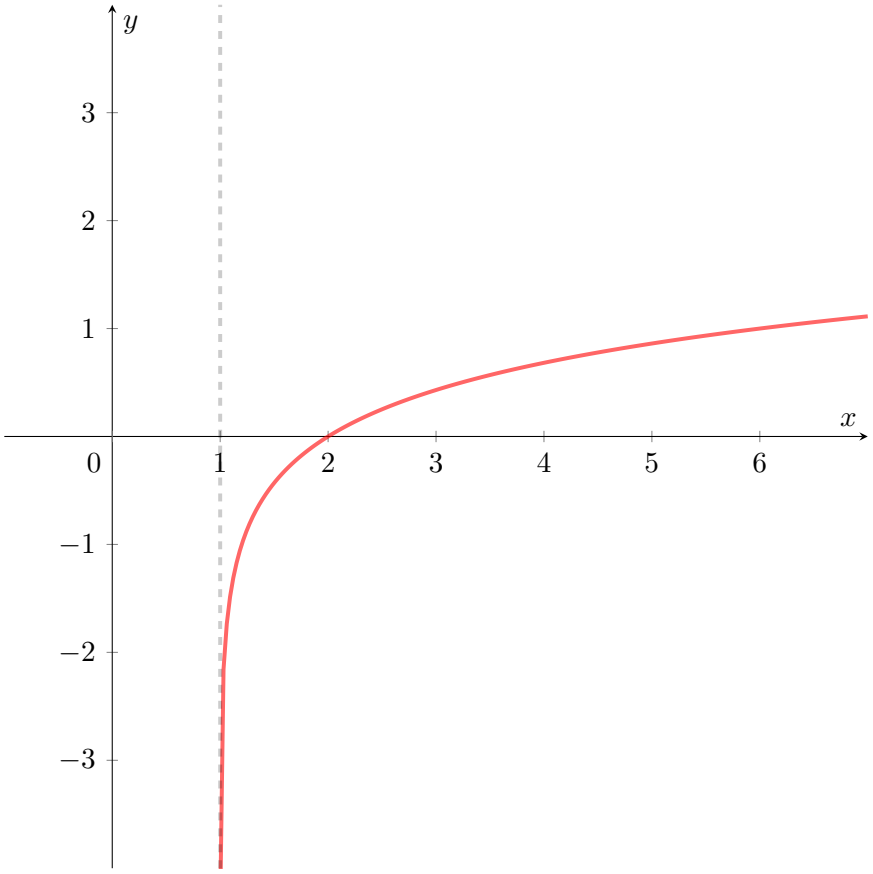
7) $-2x^2 + 8x$



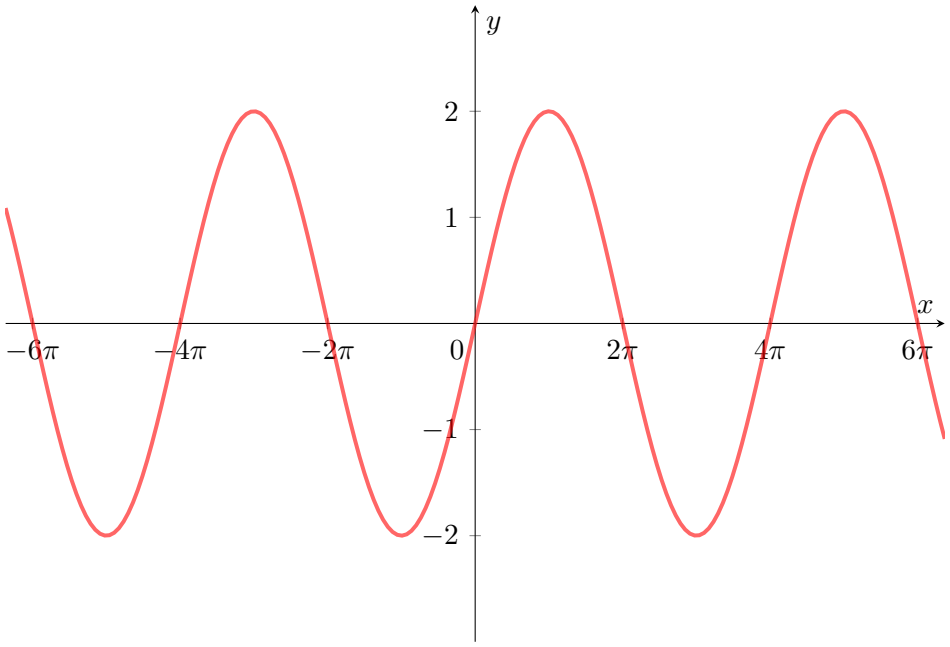
8) $y = \dfrac{2}{x} - 1$



9) $y = \log_5(x - 1)$



10) $y = 2\sin\frac{1}{2}x$



Test 4

1) $\dfrac{7}{21}$

2) $-x,\ x \neq 0,\ x \neq 1$

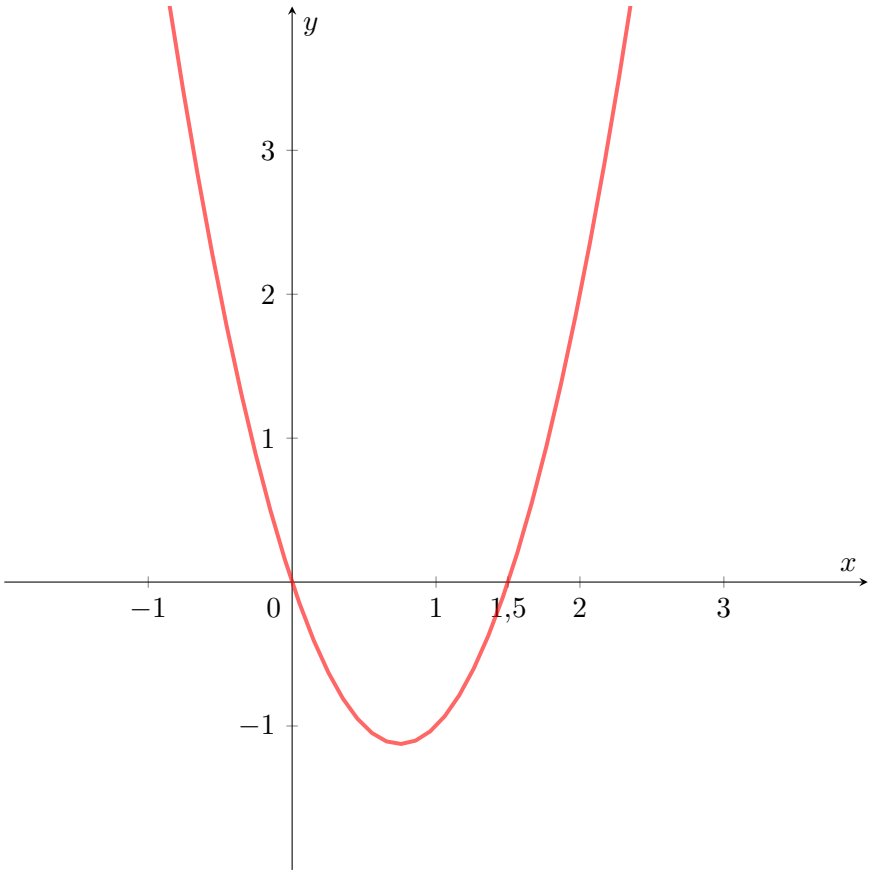
3) $x = -\dfrac{452}{13}$

4) $x \in \langle 0, 4\rangle$

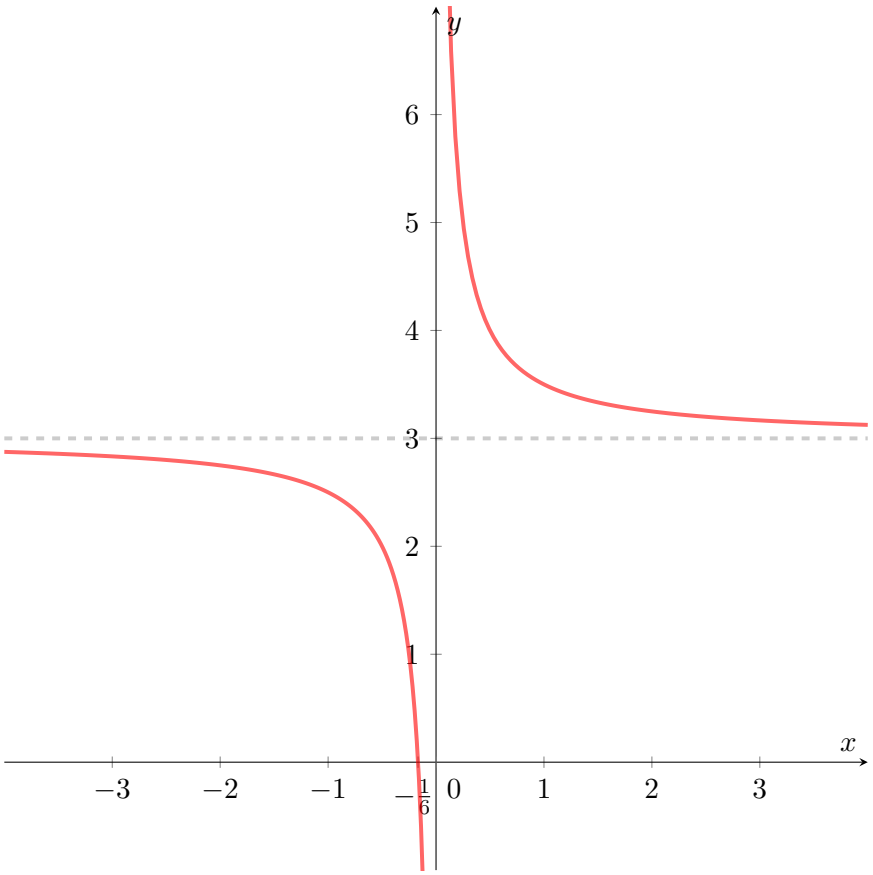
5) $x = t,\ y = \dfrac{2t-2}{3},\ t \in \mathbb{R}$

6) $\mathrm{D}_f = (-\infty, -3\rangle$

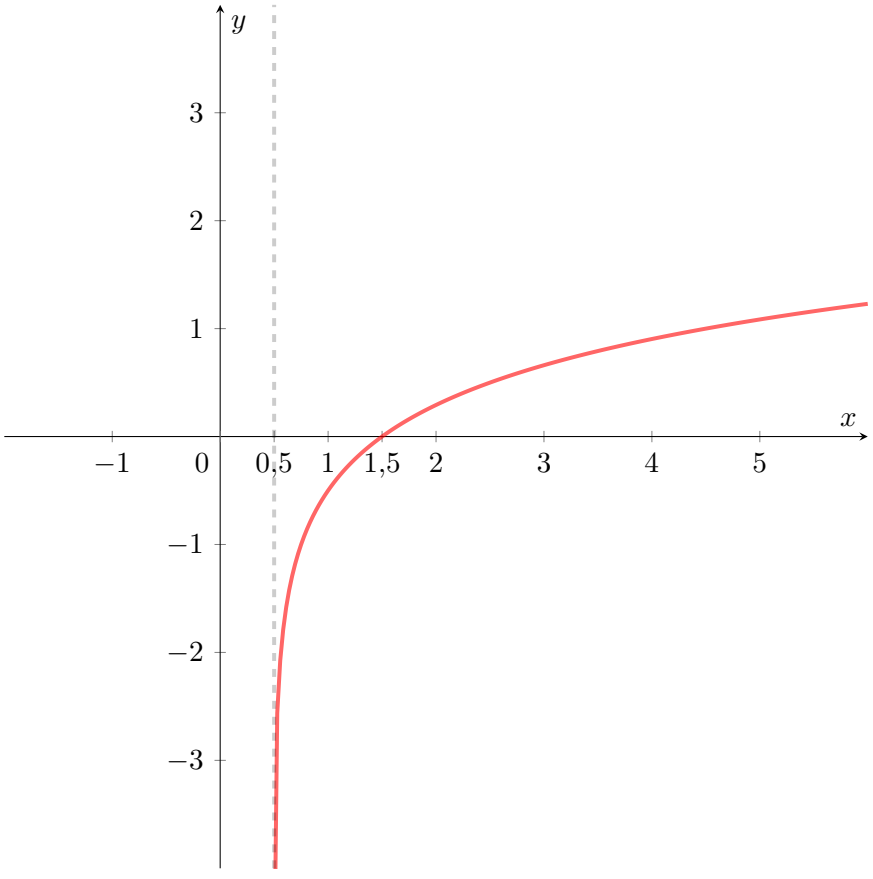
7) $y = 2x^2 - 3x$



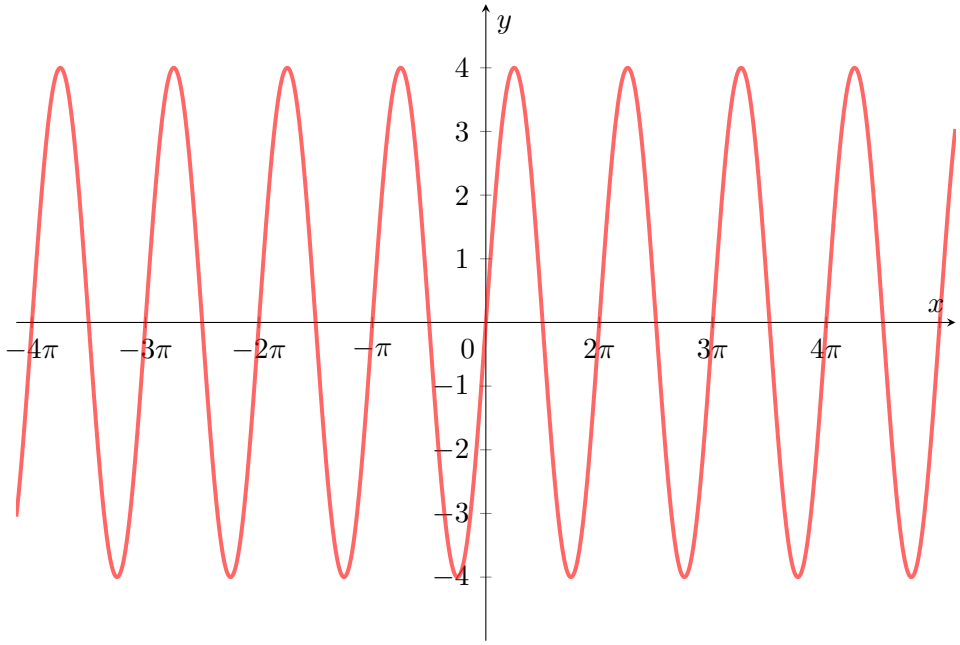
8) $y = \frac{\frac{1}{2}}{x} + 3$



9) $y = \log_4\left(x - \frac{1}{2}\right)$



10) $y = 4\sin 2x$



Test 5

1) $\frac{\sqrt[3]{252}}{4}$

2) $\frac{1}{x}$, $x \neq 0$, $x \neq \pm 1$

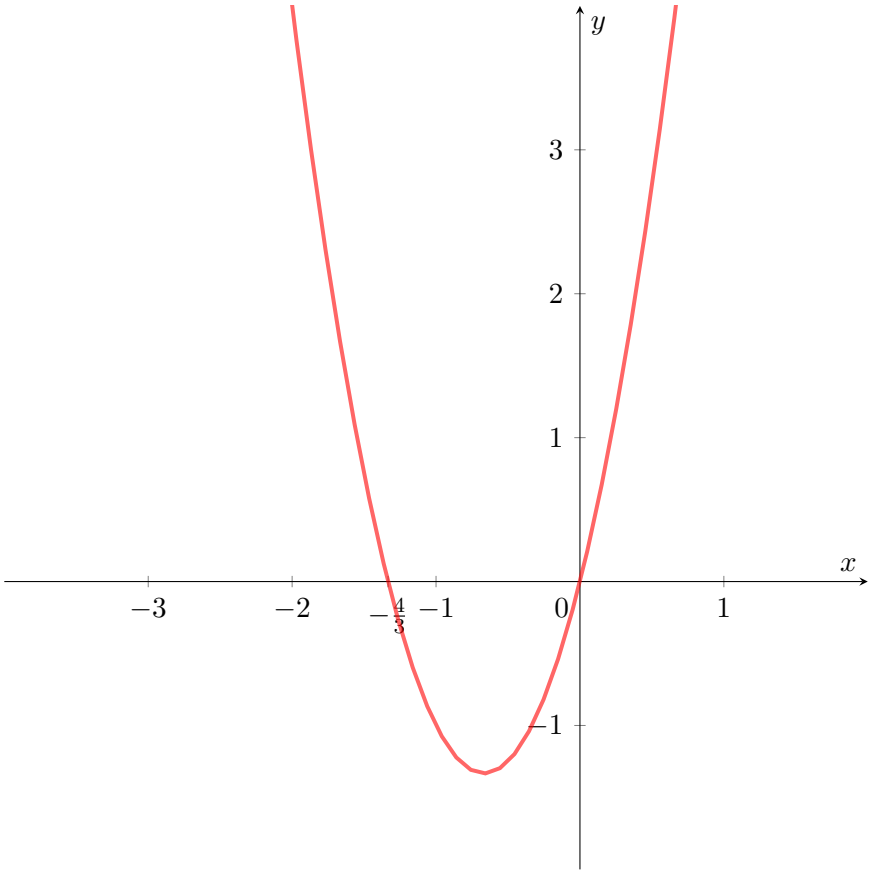
3) $x = -\frac{201}{53}$

4) $x \in \langle 0, 2 \rangle$

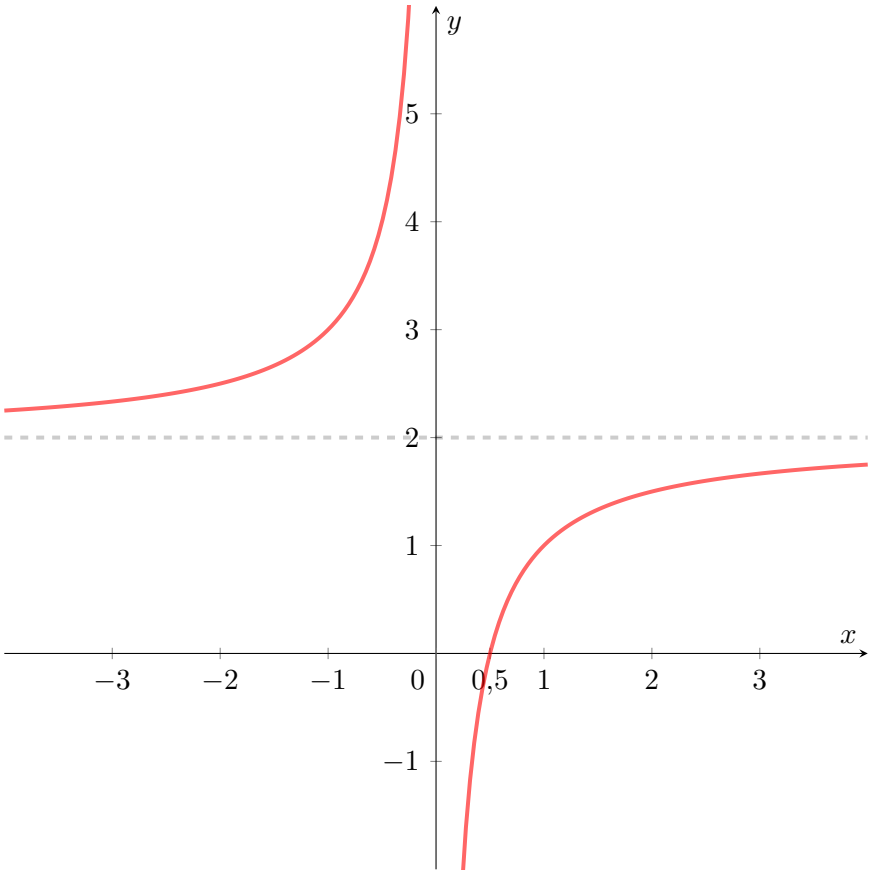
5) $x = \frac{17}{5}$, $y = \frac{-54}{5}$

6) $\mathrm{D}_f = \emptyset$

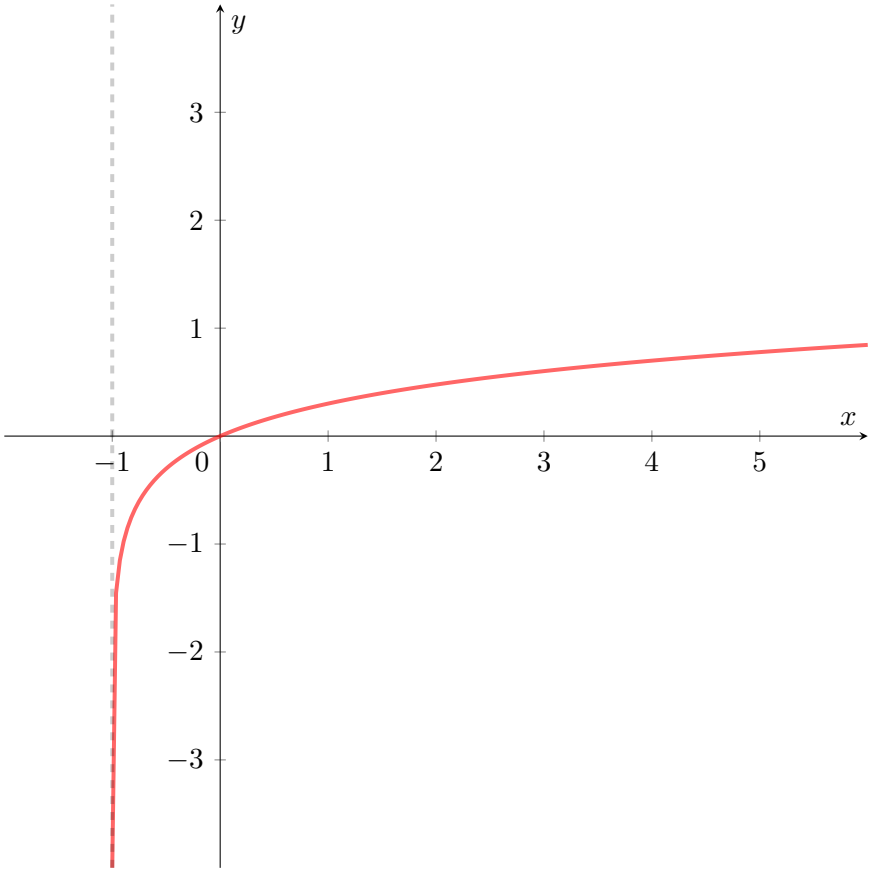
7) $y = 3x^2 + 4x$



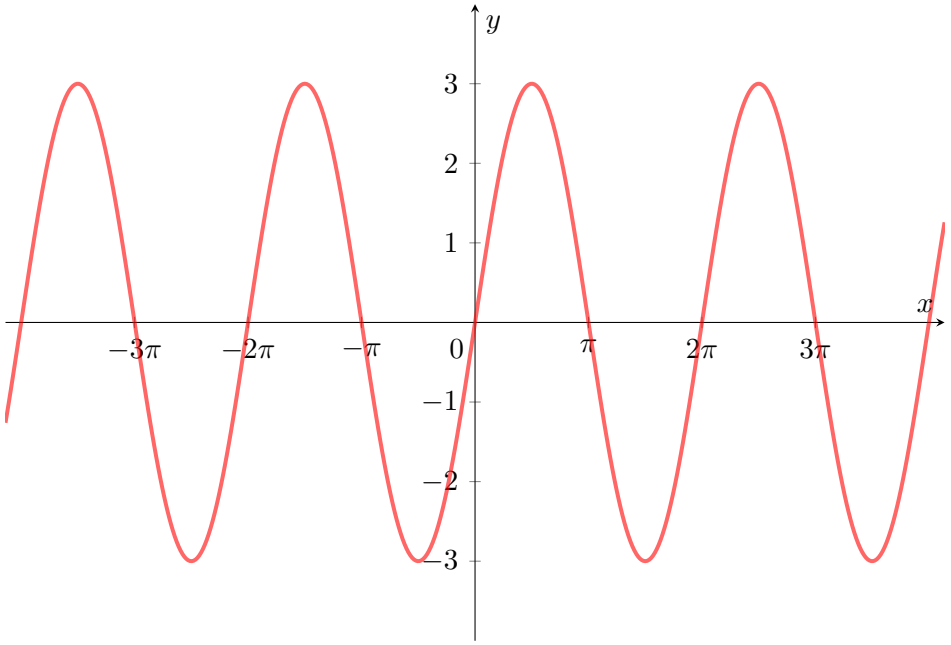
8) $y = -\dfrac{1}{x} + 2$



9) $y = \log(x + 1)$



10) $y = (-3)\sin(-x)$



Test 6

1) $\dfrac{25}{41}$

2) $\dfrac{2}{x+1}$, $x \neq 0$, $x \neq \pm 1$

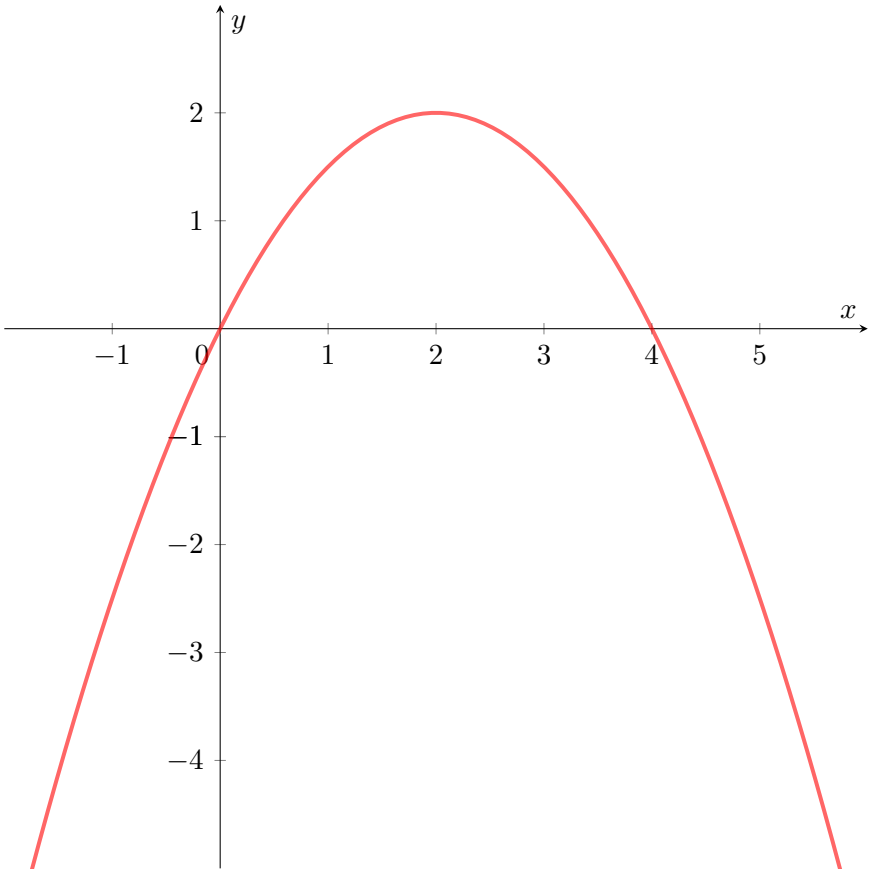
3) $x = -\dfrac{128}{27}$

4) $x \in (-\infty, -3) \cup (2, \infty)$

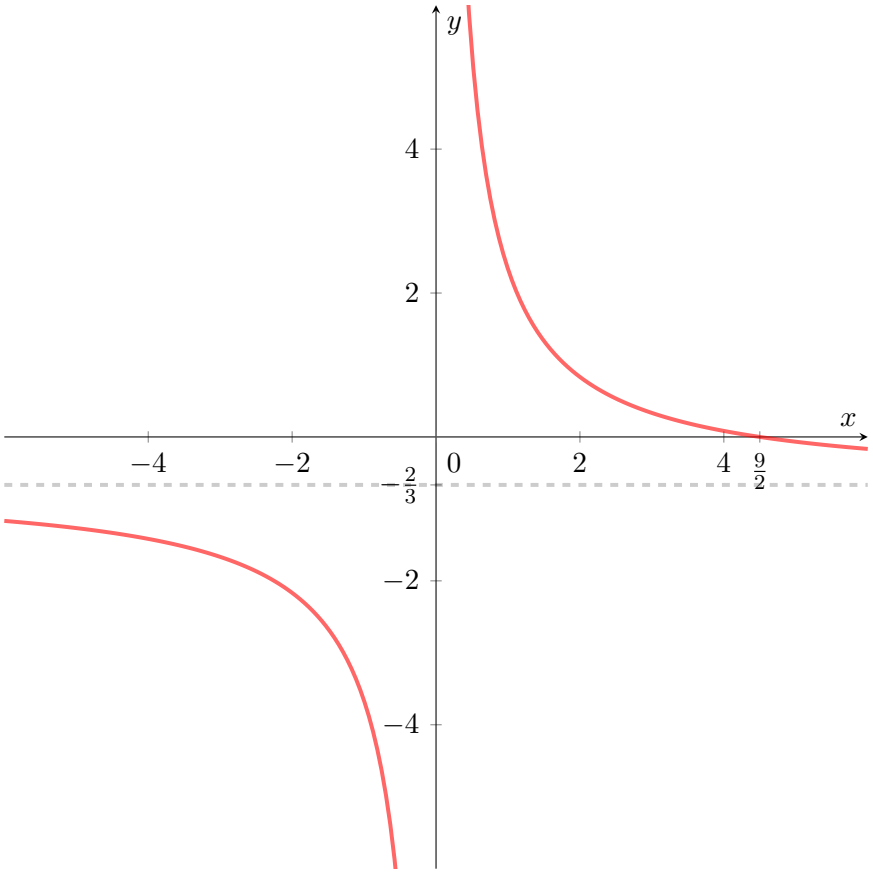
5) $x = 2$, $y = 4$

6) $\mathrm{D}_f = \mathbb{R} \setminus \{3\}$

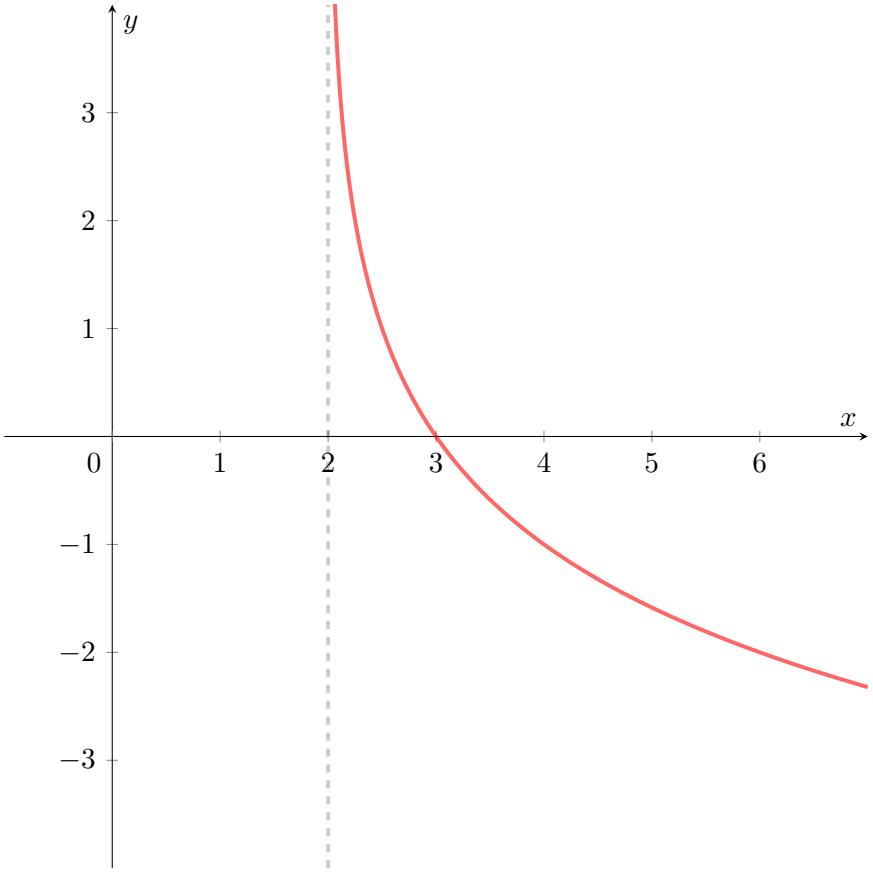
7) $y = -\dfrac{1}{2}x^2 + 2x$



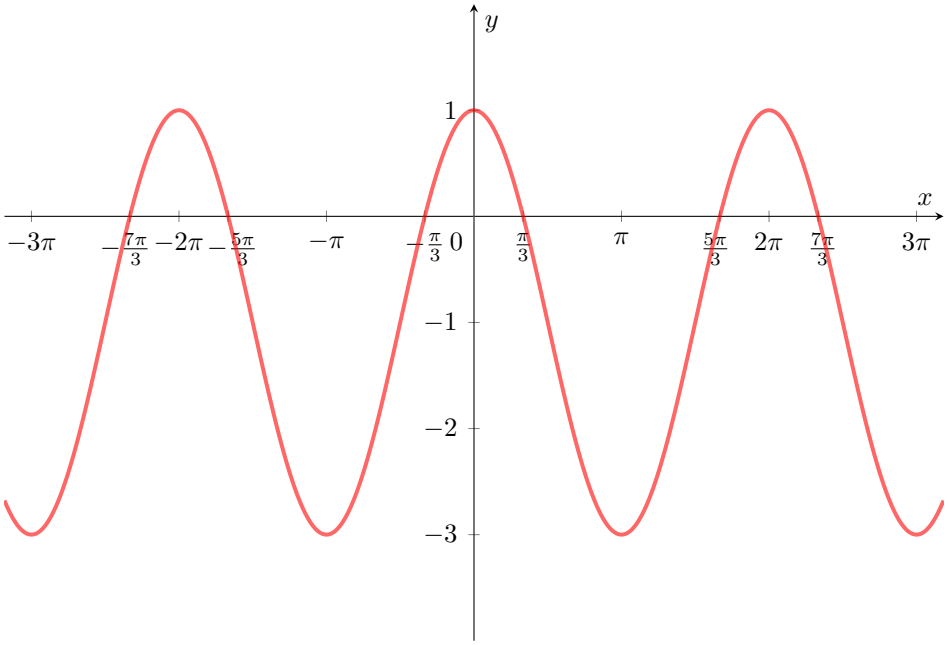
8) $y = \dfrac{3}{x} - \dfrac{2}{3}$



9) $y = \log_{\frac{1}{2}}(x-2)$



10) $y = -1 + 2\cos x$



Test 7

1) $-\dfrac{9}{80}$

2) $-\dfrac{x\,(2x+1)}{x+1}$, $x \neq 0$, $x \neq -1$

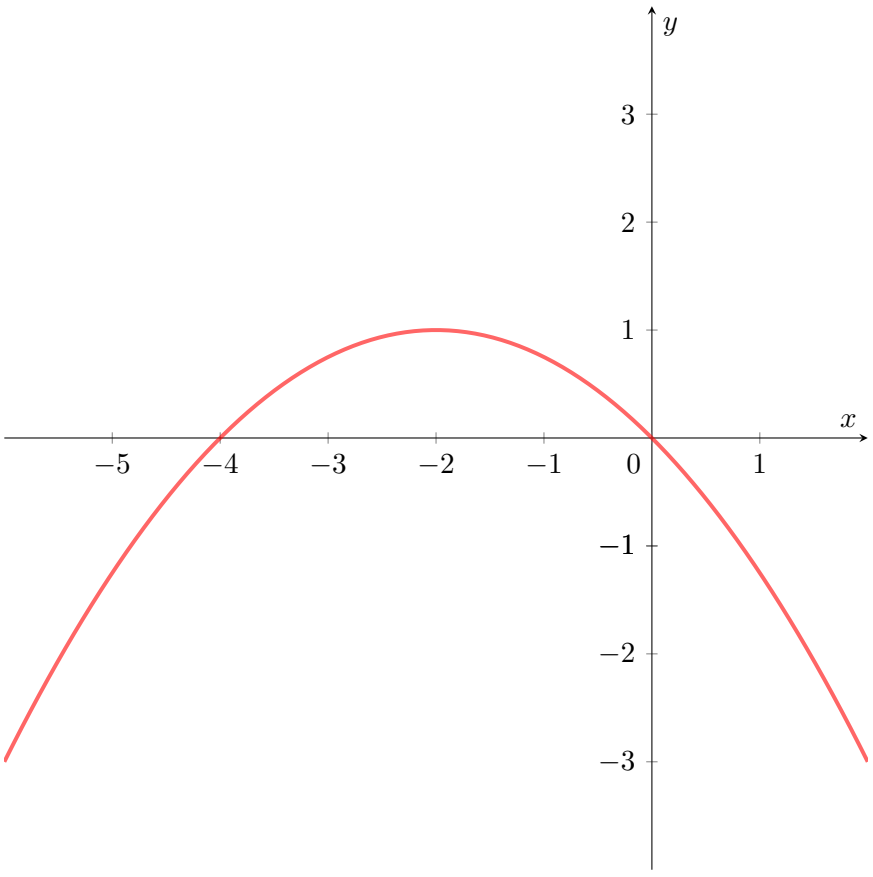
3) $x = \dfrac{25}{19}$

4) $x \in (-1, 4)$

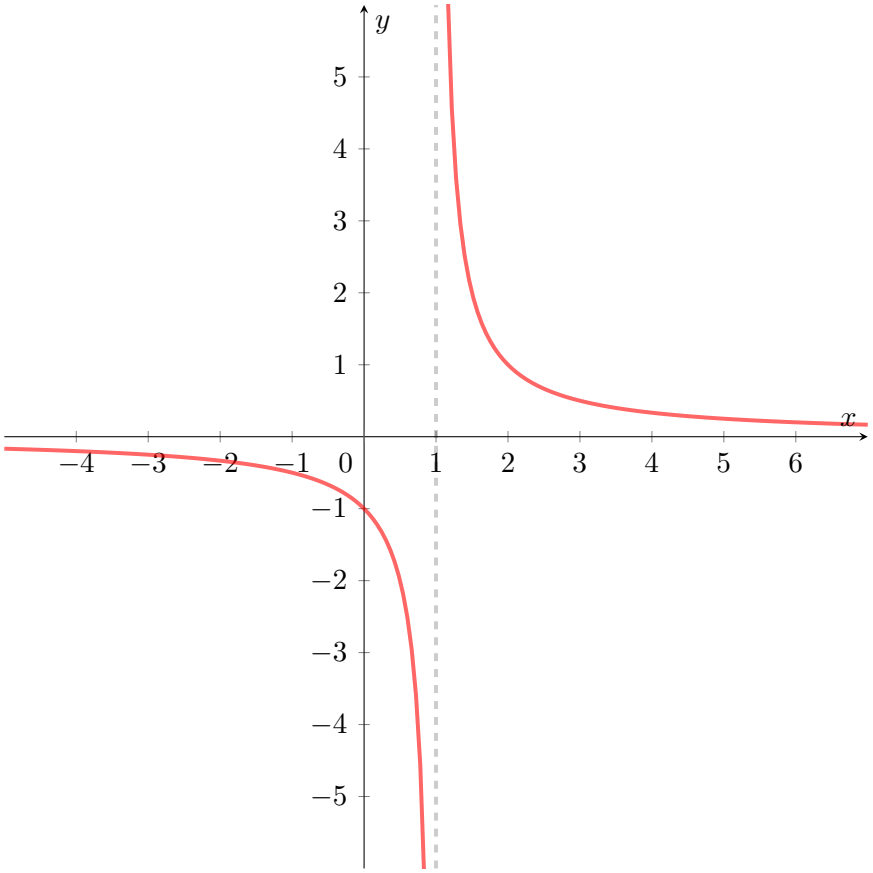
5) $x = 2$, $y = -3$

6) $\mathrm{D}_f = (-2, 2)$

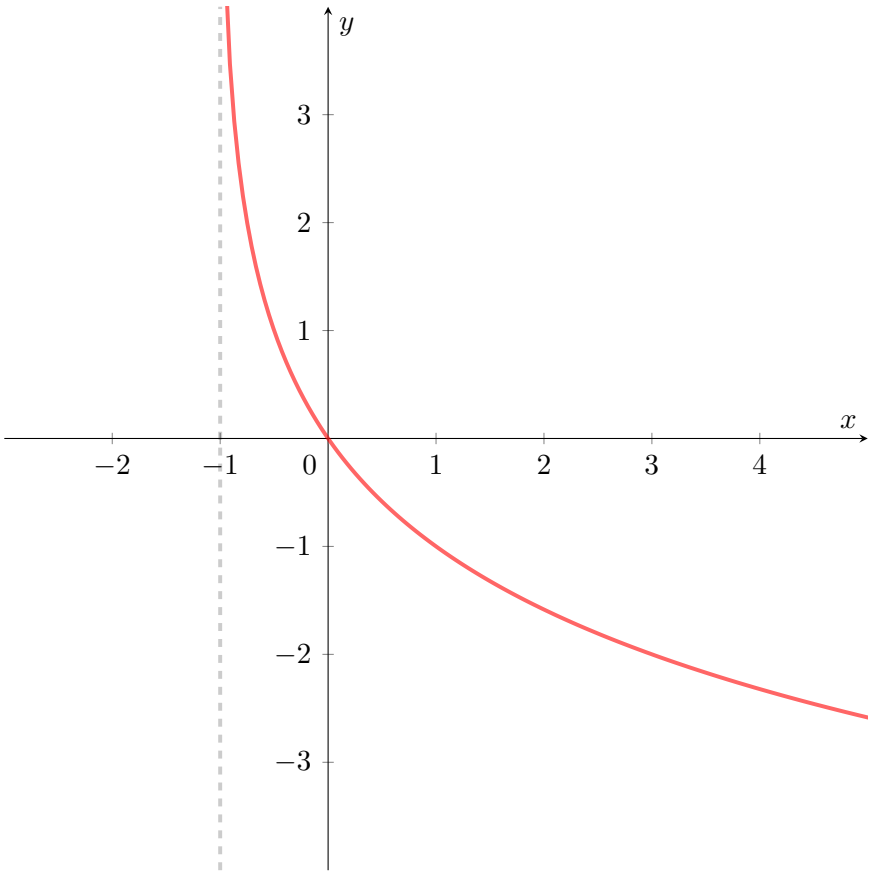
7) $y = -\dfrac{1}{4}x^2 - x$



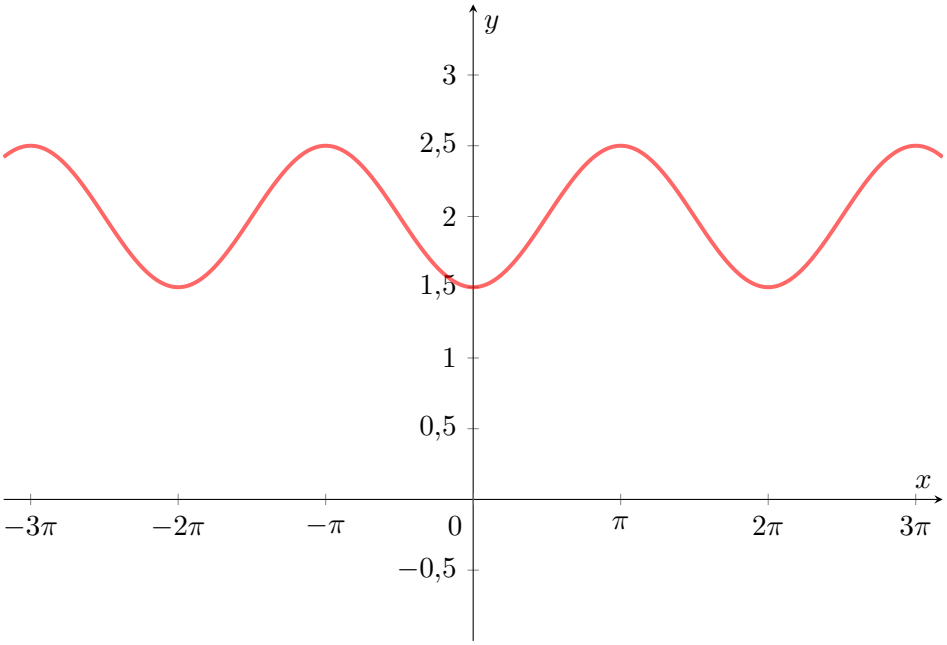
8) $y = \dfrac{1}{x-1}$



9) $y = \log_{\frac{1}{2}}(x+1)$



10) $2 - \frac{1}{2}\cos x$



Test 8

1) 63504

2) $\dfrac{1}{x\,(x-1)}$, $x \neq 0$, $x \neq 1$, $x \neq \pm 3$

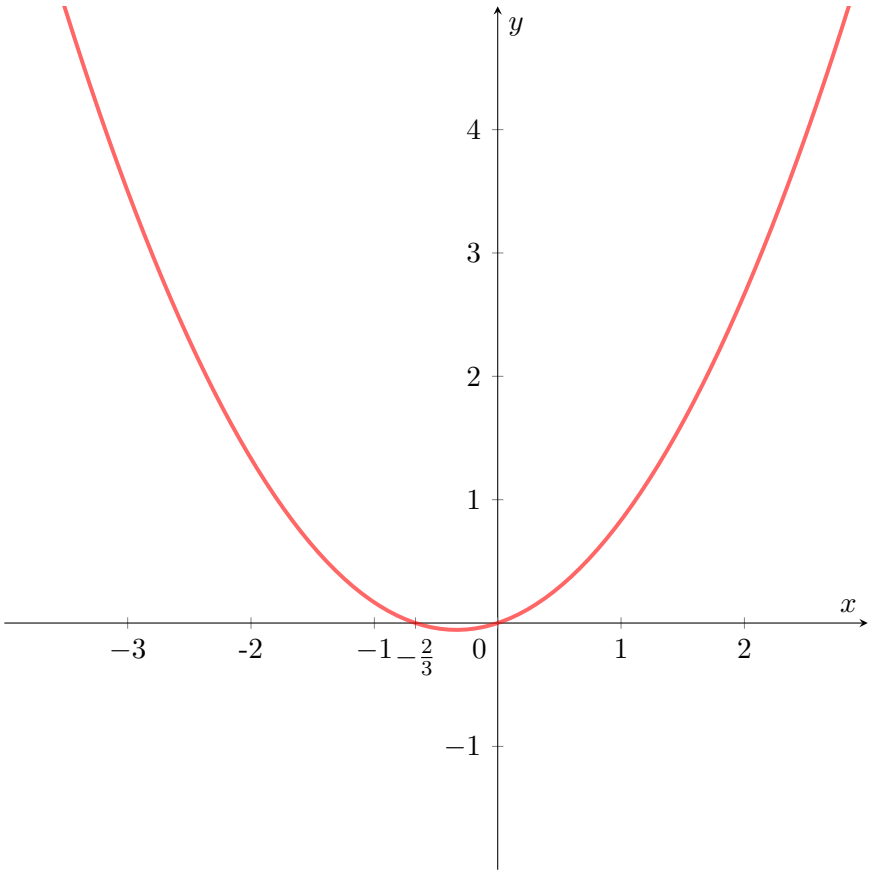
3) $x = -\dfrac{17}{12}$

4) $x \in (-\infty, 1) \cup (3, \infty)$

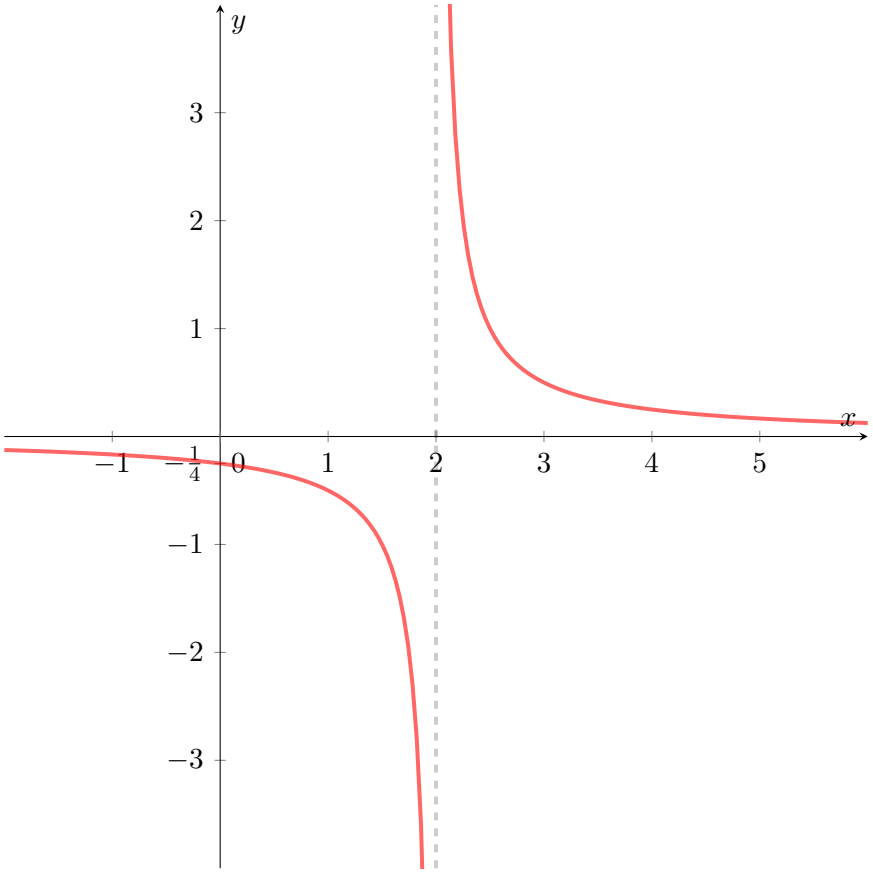
5) $x = 2$, $y = 3$

6) $\mathrm{D}_f = \mathbb{R}$

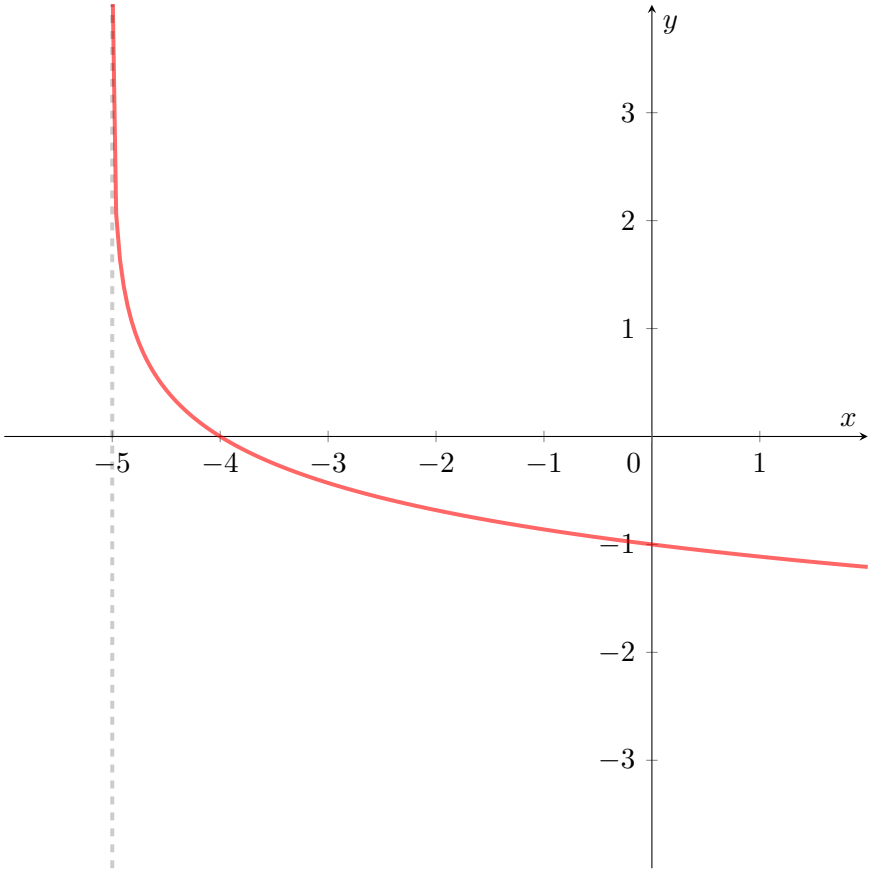
7) $y = \dfrac{1}{2}x^2 + \dfrac{1}{3}x$



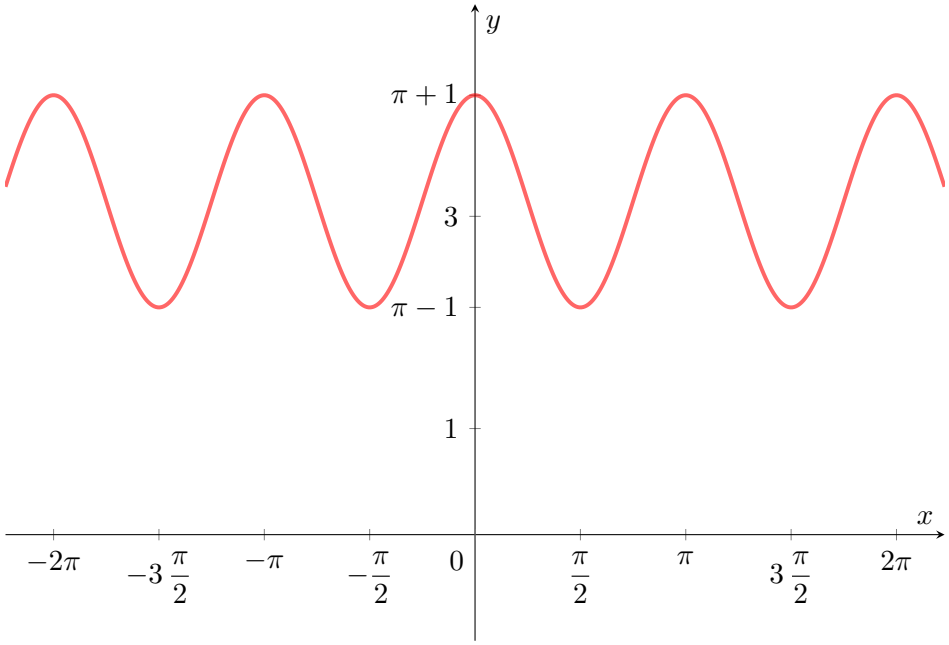
8) $y = \frac{\frac{1}{2}}{x-2}$



9) $y = \log_{\frac{1}{5}}(x+5)$



10) $y = \pi + \cos 2x$



Test 9

1) $\frac{9}{4}$

2) $\frac{4}{x+2}$, $x \neq \pm 2$, $x \neq -\frac{1}{3}$

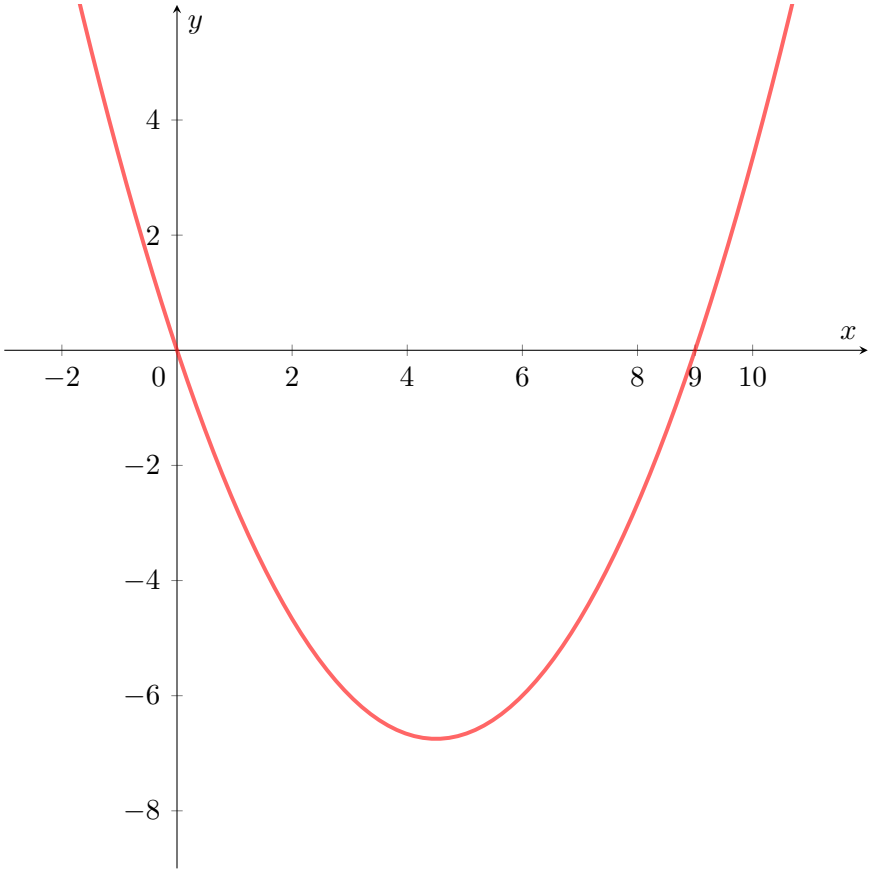
3) $x = -\frac{421}{23}$

4) $x \in (-\infty, -3) \cup (1, \infty)$

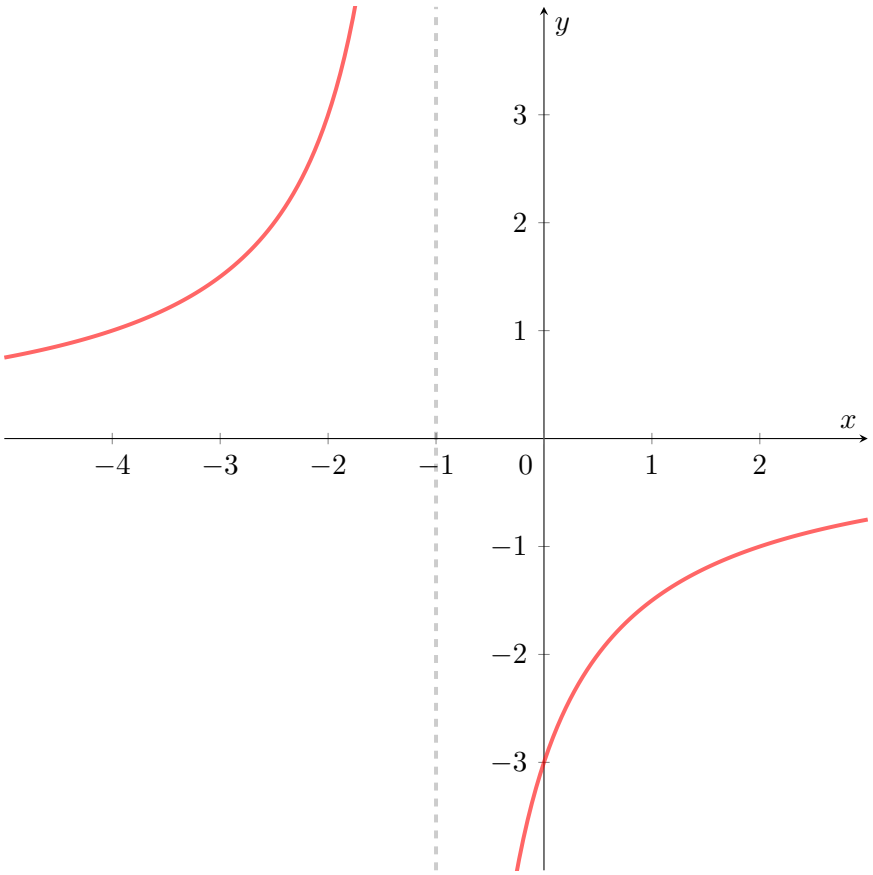
5) $x = -61$, $y = 85$

6) $\mathrm{D}_f = \emptyset$

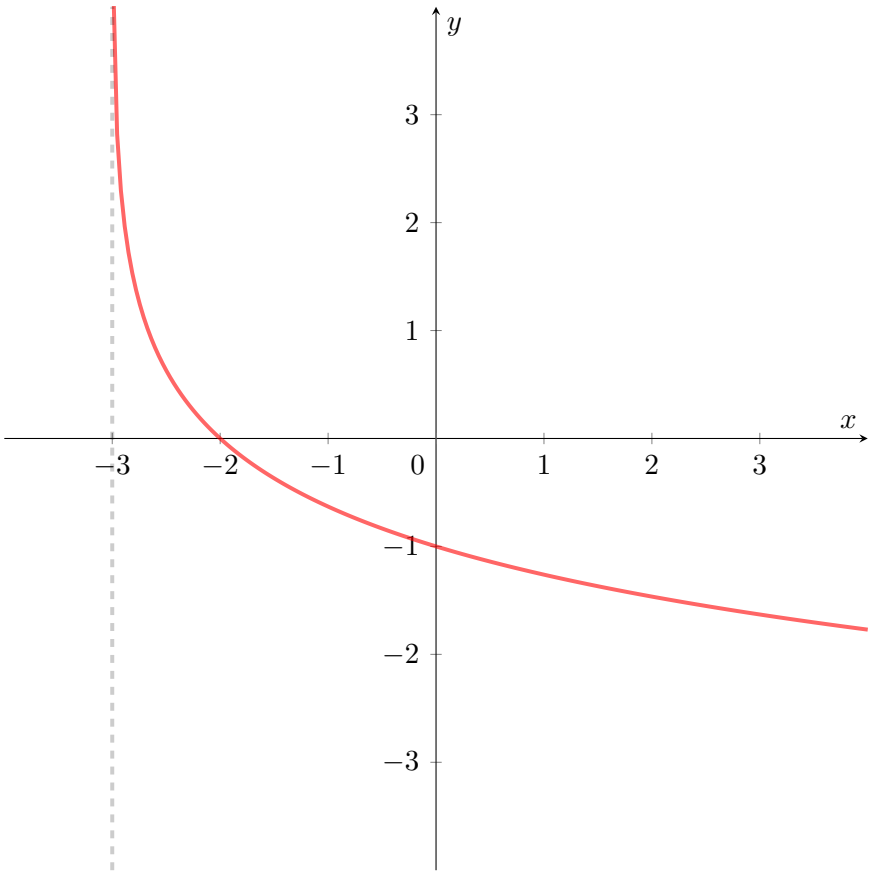
7) $y = \frac{1}{3}x^2 - 3x$



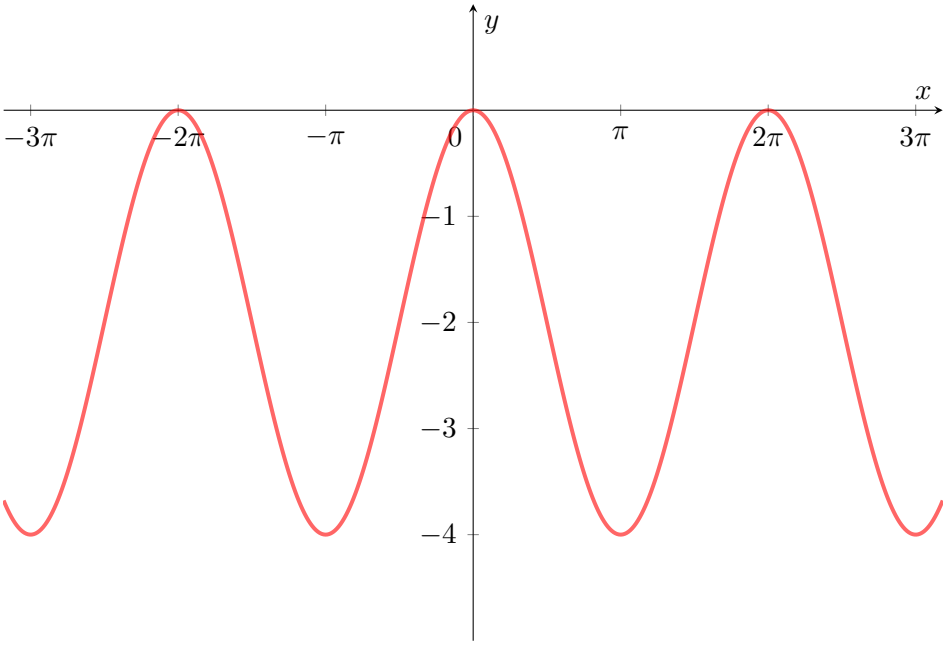
8) $y = -\dfrac{3}{x+1}$



9) $y = \log_{\frac{1}{3}}(x+3)$



10) $y = -2 + 2\cos x$



Test 10

1) $5\sqrt{2}$

2) $\dfrac{1-x}{1+x}$, $x \neq 0$, $x \neq \pm 1$

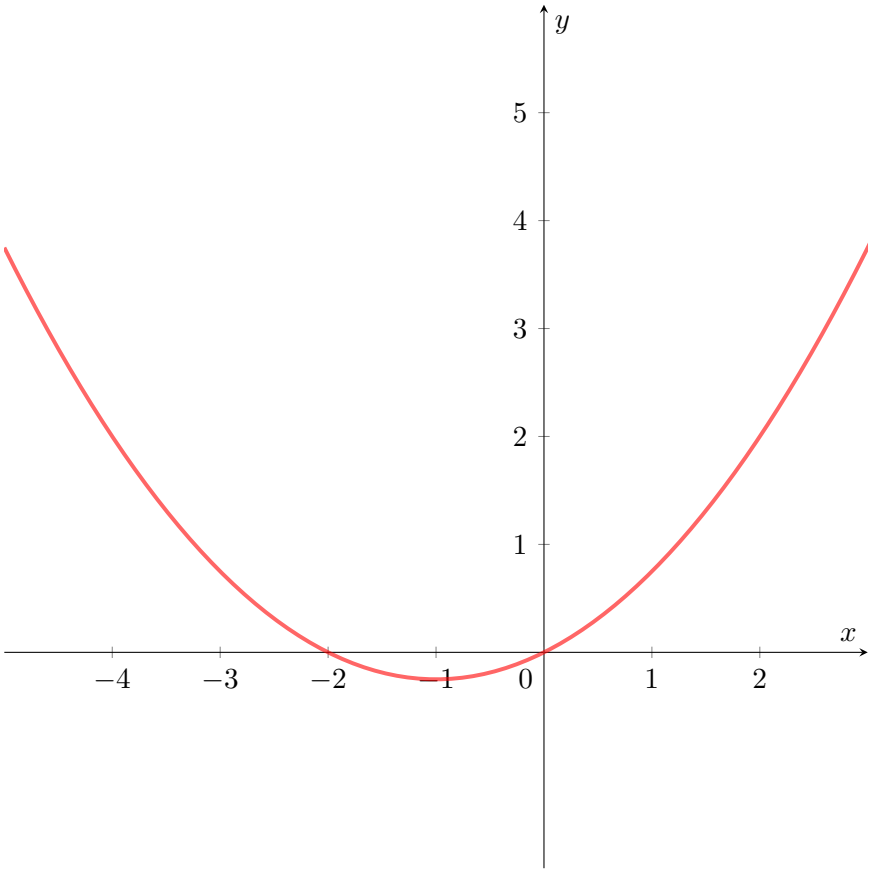
3) $x = -\dfrac{1}{8}$

4) $x \in (-\infty, -3) \cup (-1, \infty)$

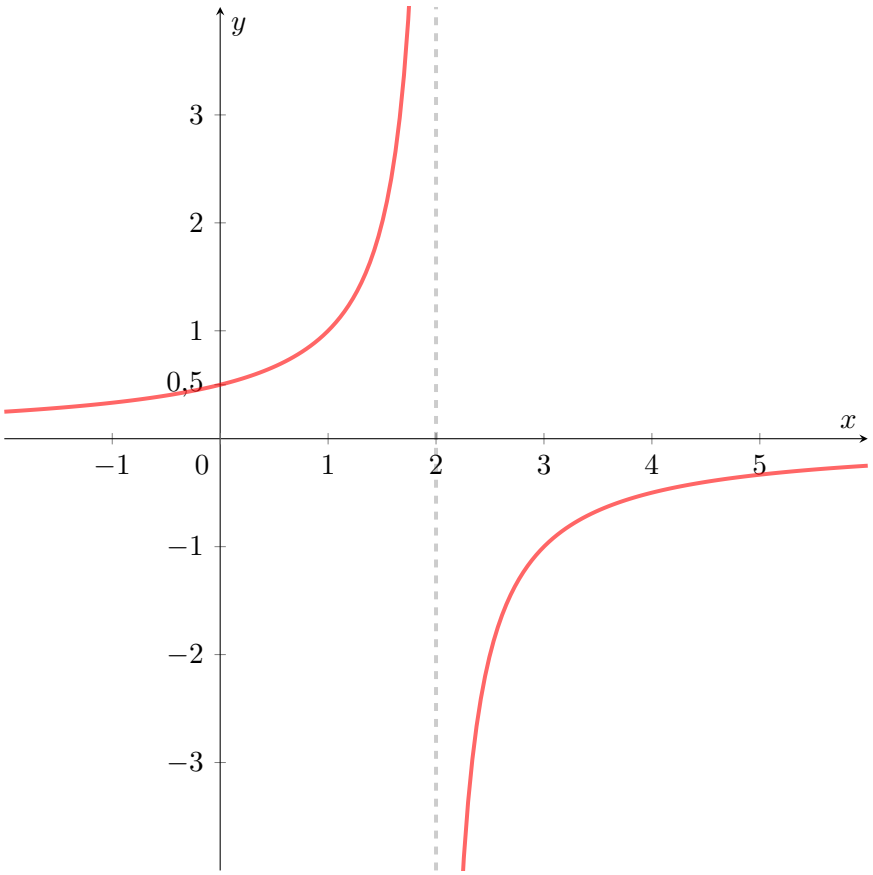
5) $x = -5$, $y = 2$

6) $\mathrm{D}_f = (-\infty, -1) \cup (1, \infty)$

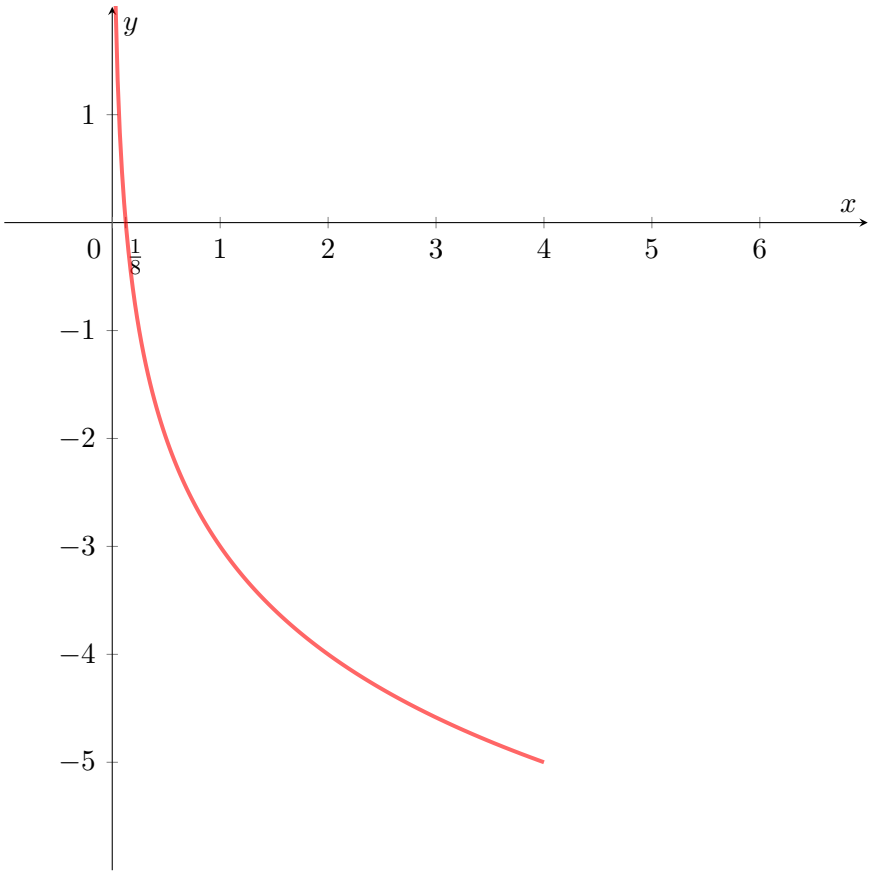
7) $y = \dfrac{1}{4}x^2 + \dfrac{1}{2}x$



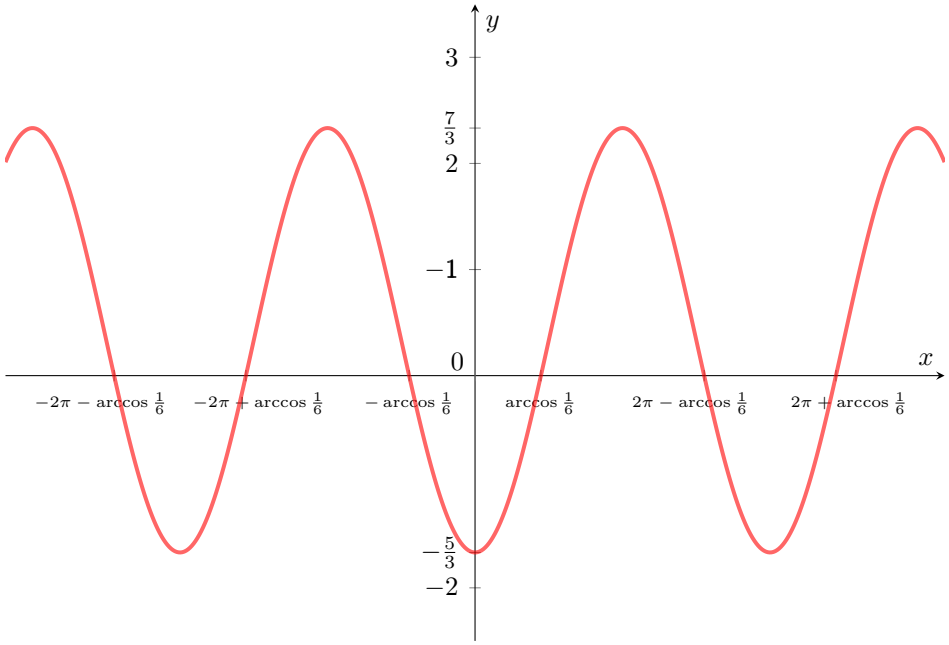
8) $y = -\dfrac{1}{x-2}$



9) $y = \log_{\frac{1}{2}} x - 3$



10) $y = \dfrac{1}{3} - 2\cos x$



Test 11

1) $\dfrac{1}{10}$ *Překlep ve skriptu:* $\left[\left(\dfrac{1}{625}\right)^{-\frac{1}{4}} + 125^{\frac{1}{3}}\right]^{-2}$

2) $\dfrac{1+x^2}{(1-x)^2}$, $x \neq \pm 1$

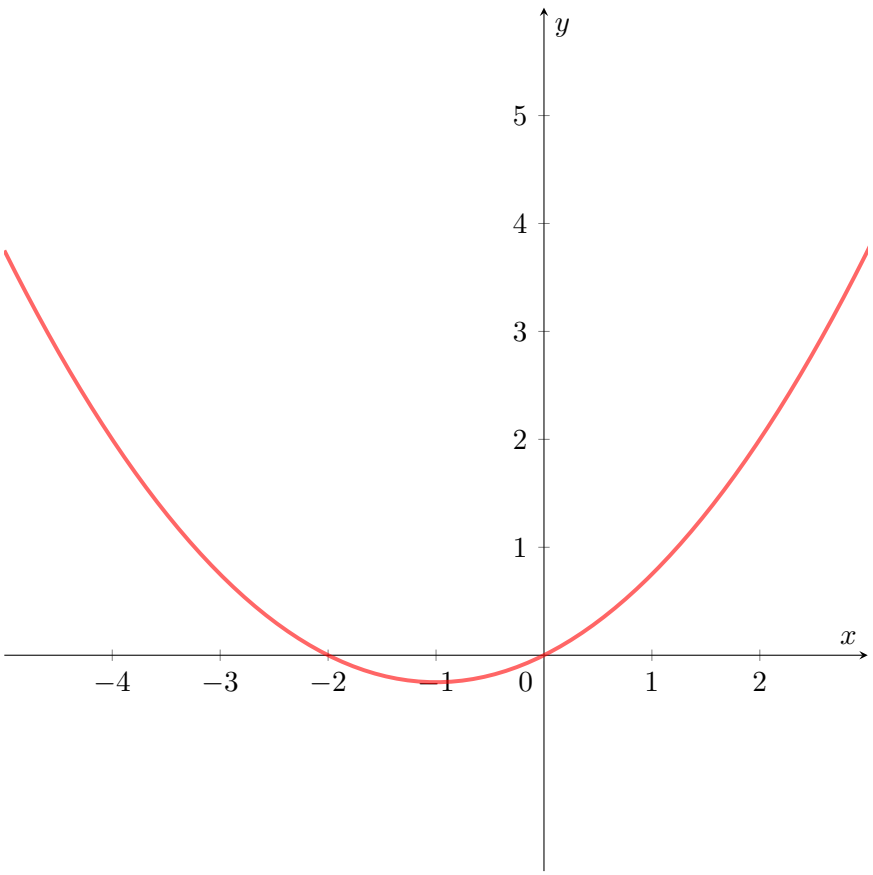
3) $x = -\dfrac{3}{11}$

4) $x \in (-6, 1)$

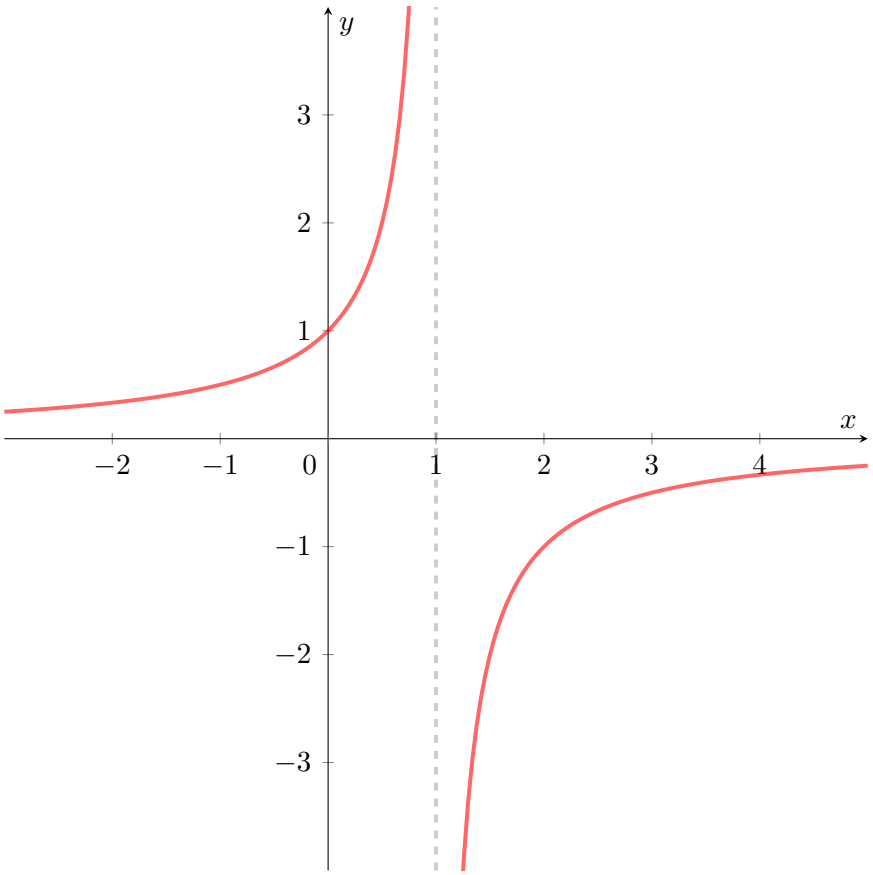
5) $x = \dfrac{27}{13}$, $y = -\dfrac{8}{13}$

6) $D_f = \mathbb{R} \setminus \{-\frac{1}{2}\}$

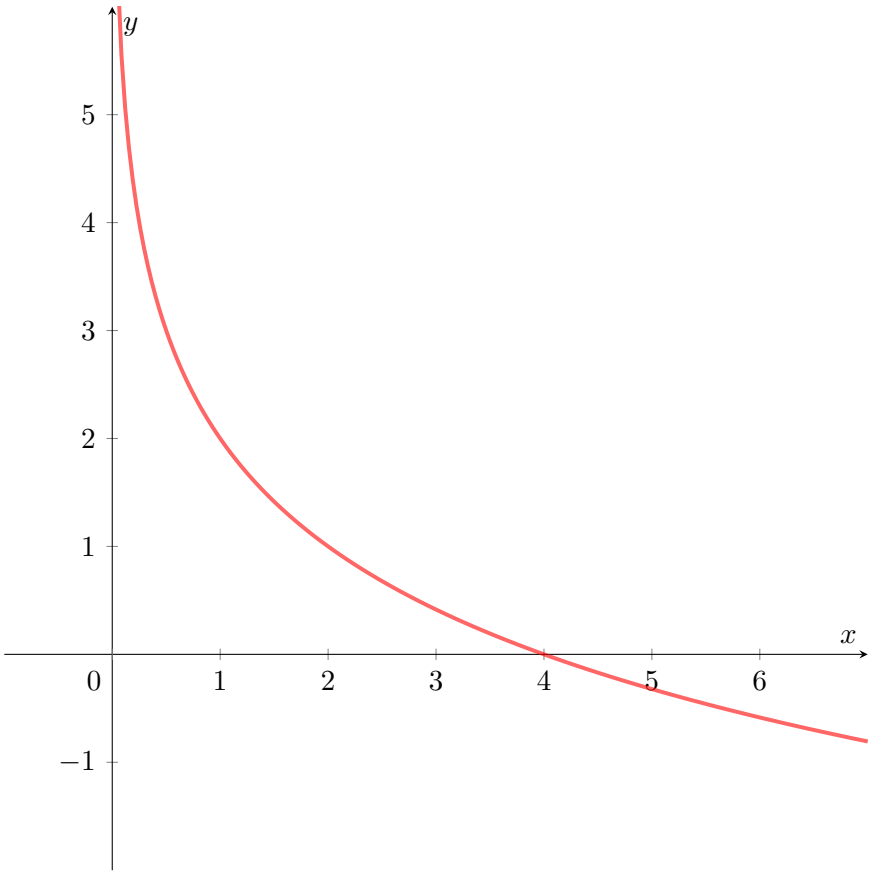
7) $\dfrac{1}{4}x^2 + \dfrac{1}{2}x$



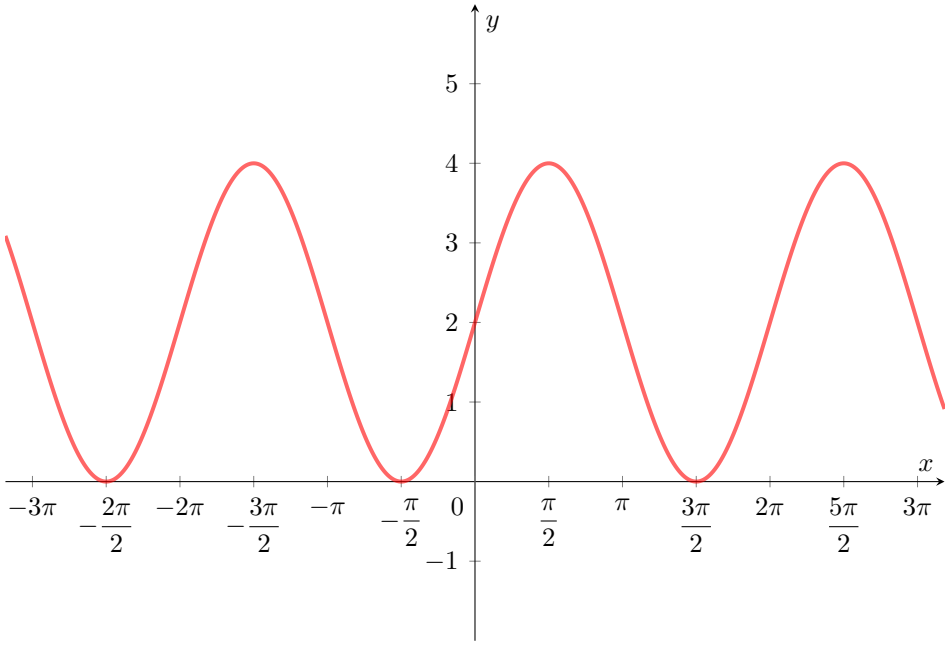
8) $y = \dfrac{1}{-x+1}$



9) $y = \log_{\frac{1}{2}} x + 2$



10) $y = 2 + 2\sin x$



Test 12

1) $\dfrac{4}{15}$

2) $-\dfrac{1}{x}$, $x \neq 0$, $x \neq \pm 1$

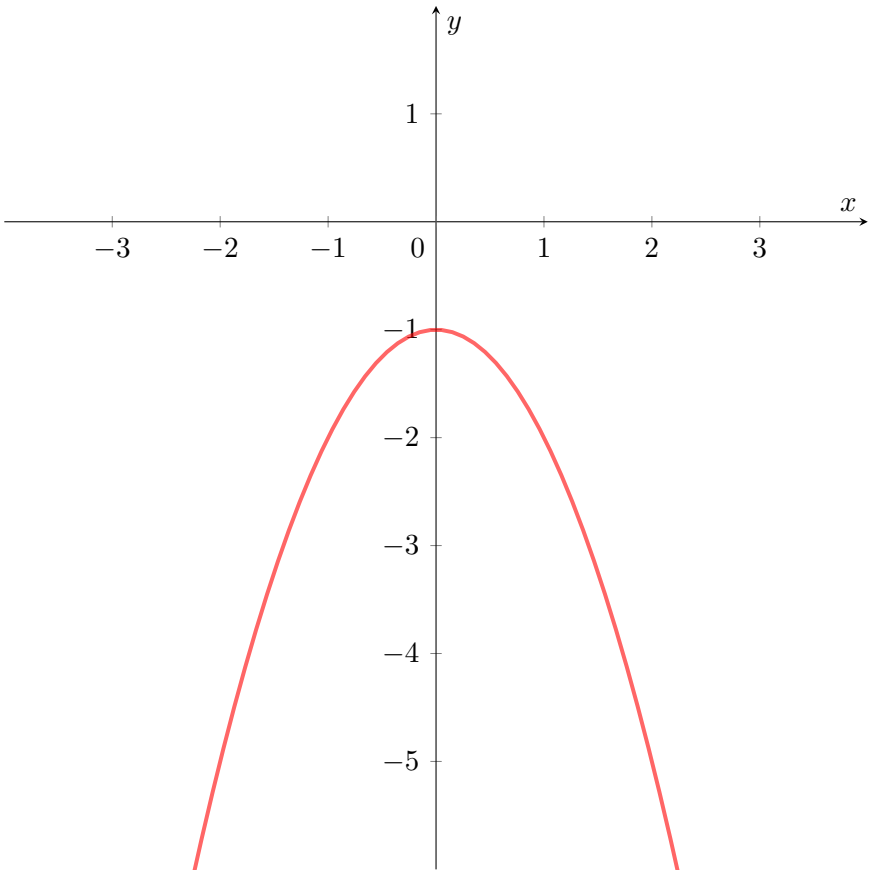
3) $x = -\dfrac{1}{26}$

4) $x \in \left(-\frac{1}{2}, -\frac{1}{4}\right)$

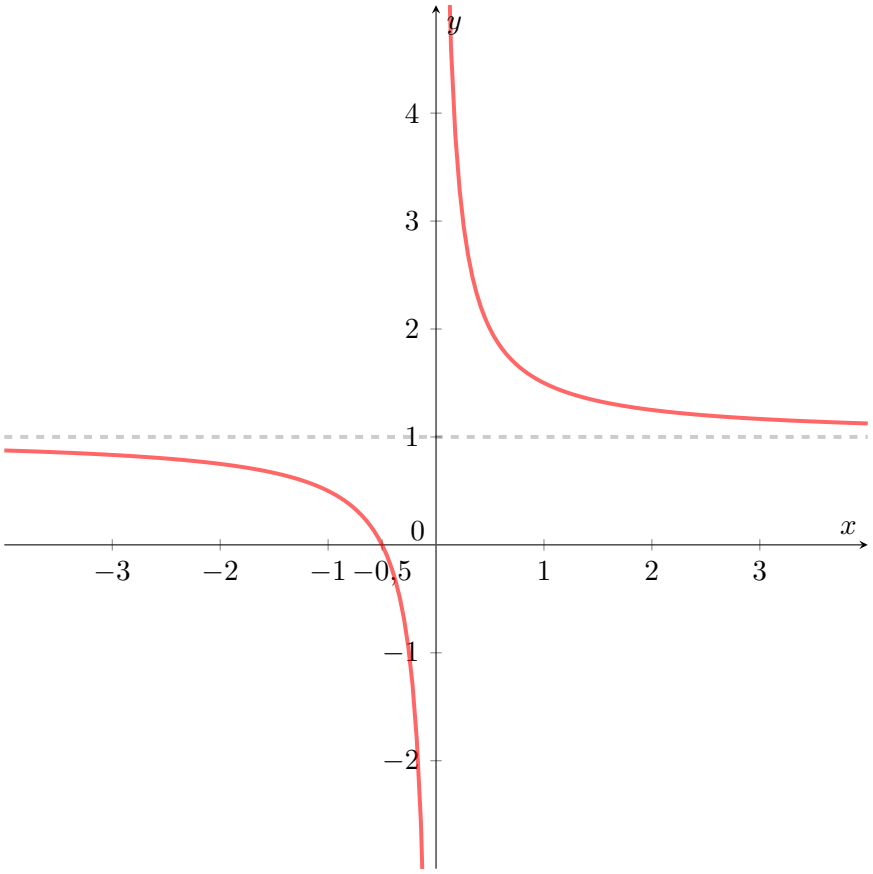
5) $x = \dfrac{21}{13}$, $y = -\dfrac{34}{13}$

6) $\mathrm{D}_f = \langle 3, \infty)$

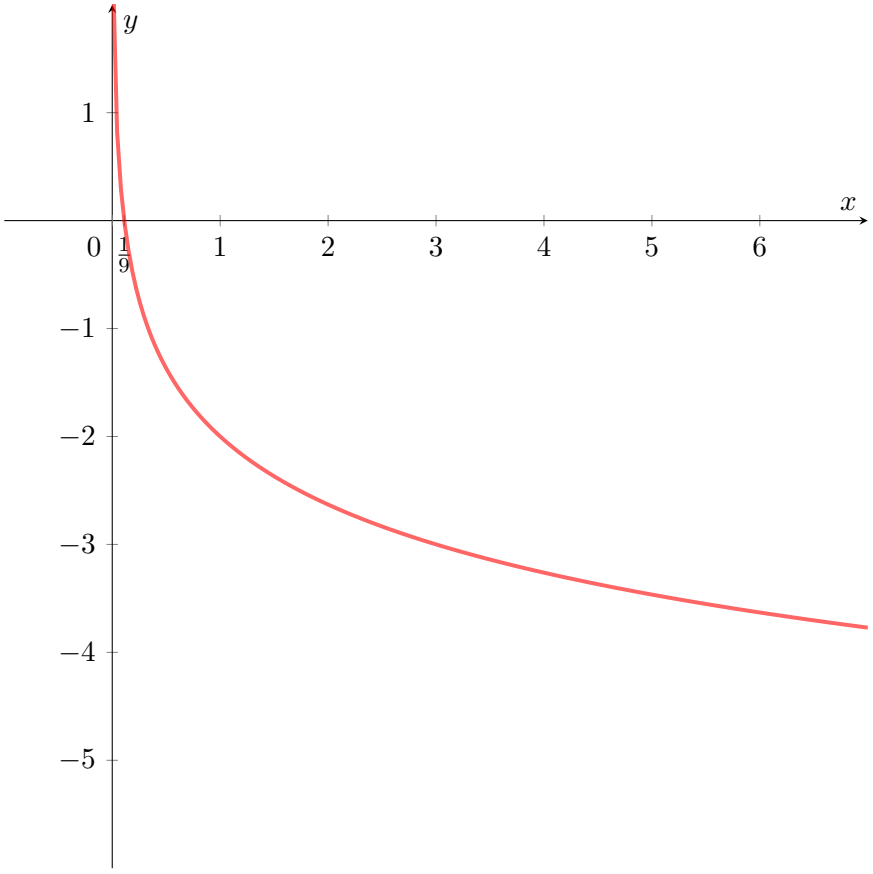
7) $y = x^2 - 1$



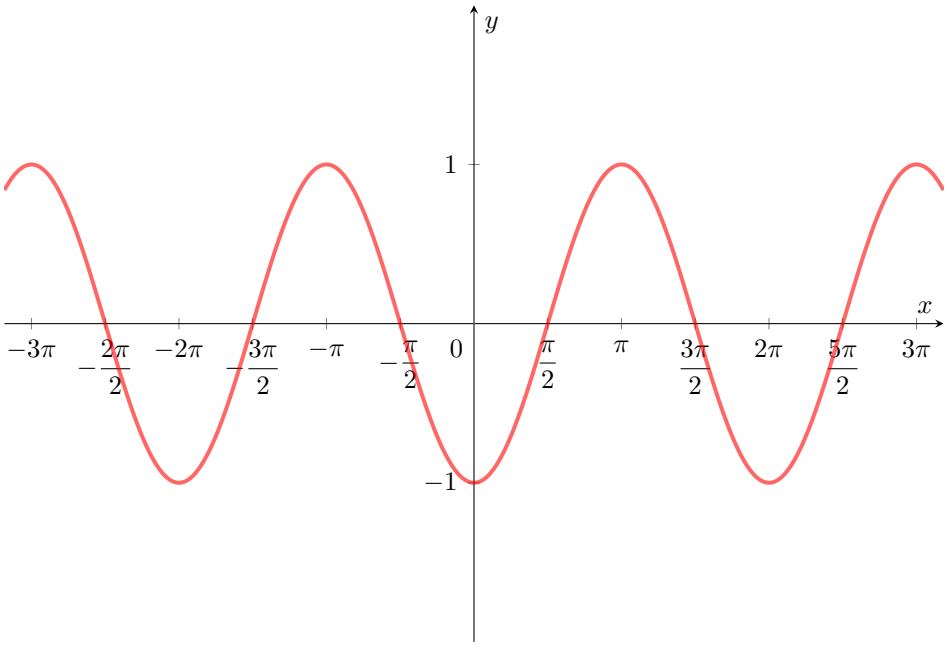
8) $y = \dfrac{1}{2x} + 1$



9) $y = \log_{\frac{1}{3}} x + 2$



10) $y = -\sin\left(x + \frac{\pi}{2}\right)$



Test 13

1) $4\sqrt{6}$

2) $\dfrac{1-x}{1+x}$, $x \neq 0$, $x \neq \pm 1$

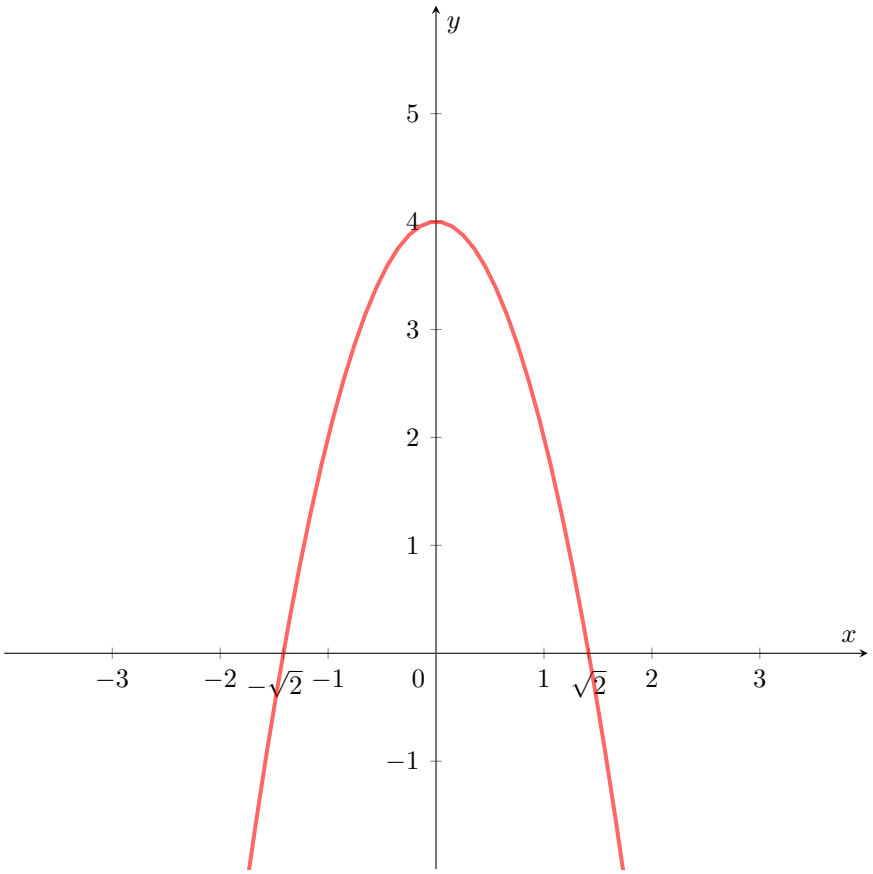
3) $x = 2$

4) $x \in (3, 5)$

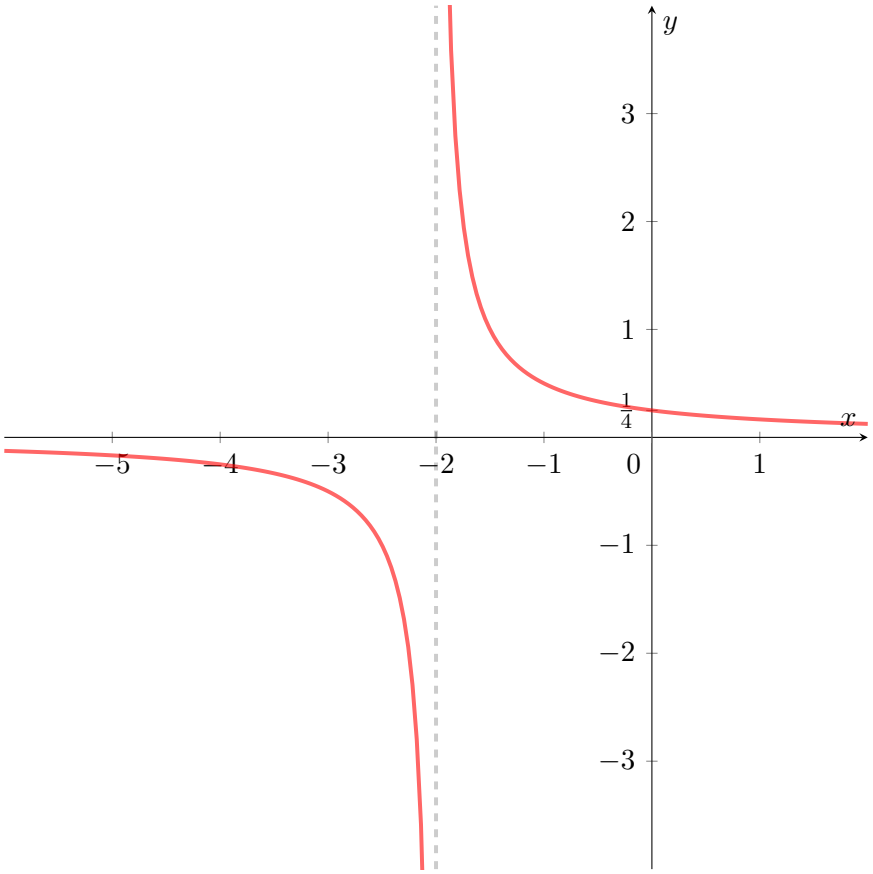
5) $x = -\dfrac{18}{5}$, $y = \dfrac{37}{5}$

6) $\mathrm{D}_f = \emptyset$

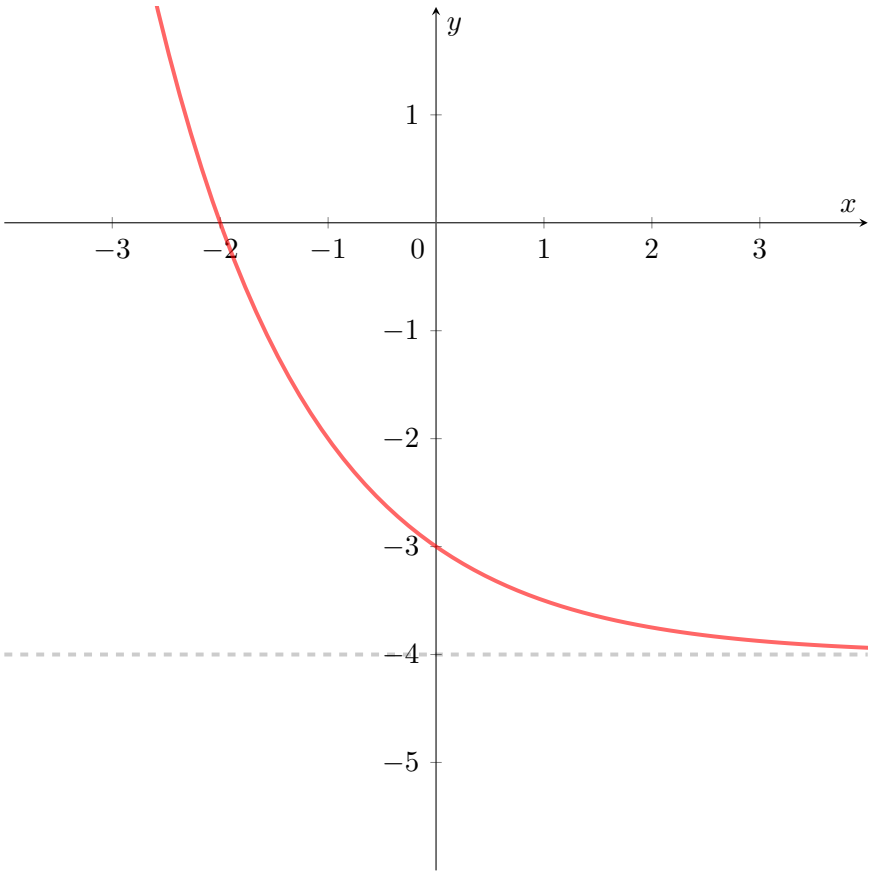
7) $y = -2x^2 + 4$



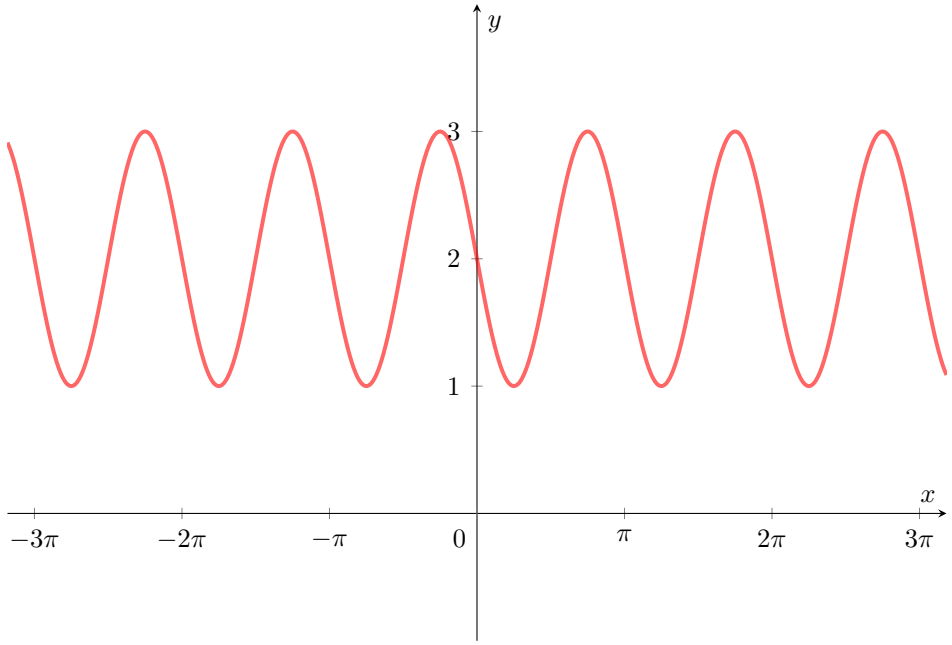
8) $y = \dfrac{1}{2x+4}$



9) $y = 2^{-x} - 4$



10) $y = -\sin 2x + 2$



Test 14

1) $\frac{1}{x}$, $x \neq 0$, $x \neq \pm 2$

2) $\frac{2}{x^2-1}$, $x \neq 0$, $x \neq \pm 1$

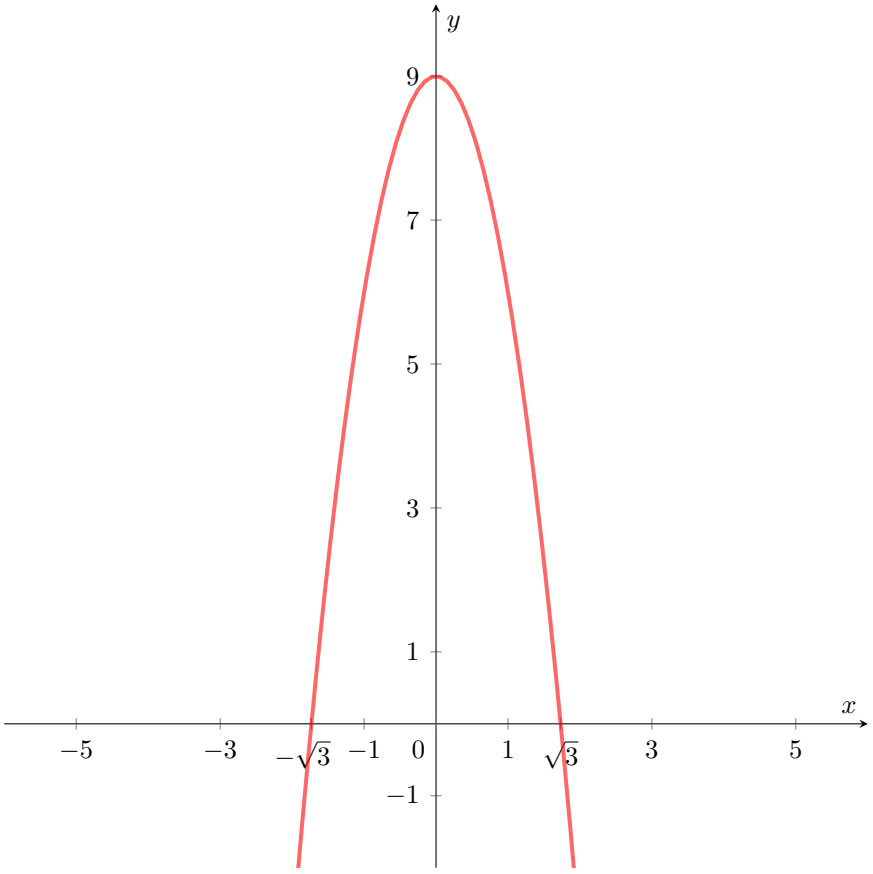
3) $x = 4$

4) $x \in \left(\frac{1}{2}, 2\right)$

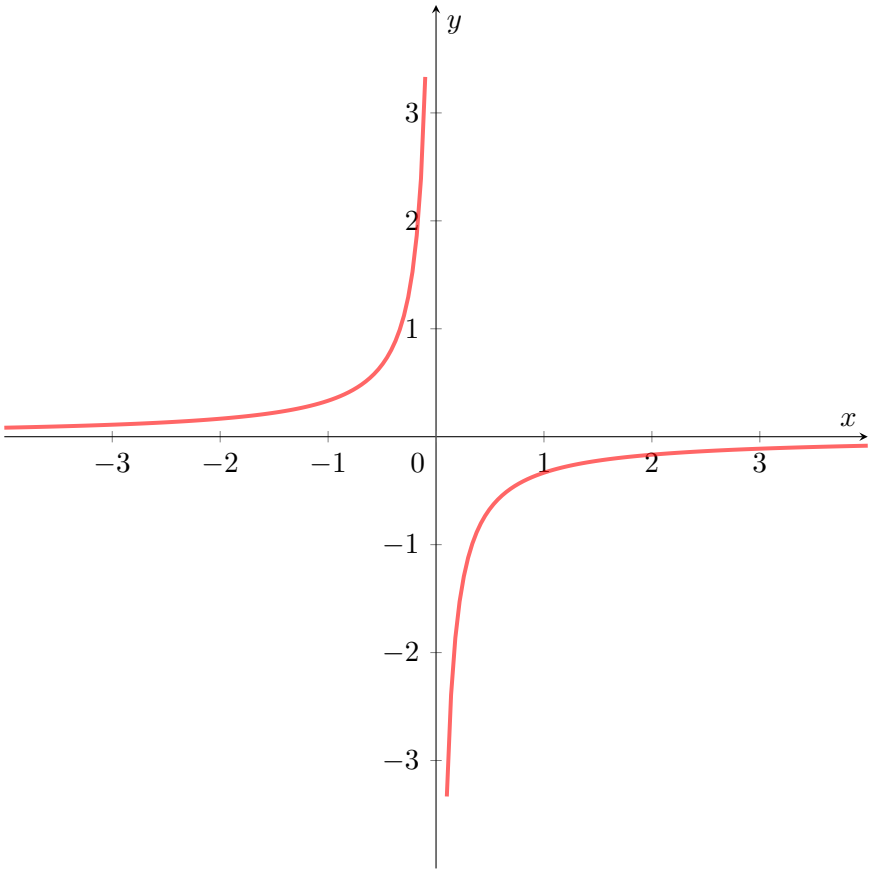
5) $x = \frac{17}{14}$, $y = \frac{19}{28}$

6) $\mathrm{D}_f = \emptyset$

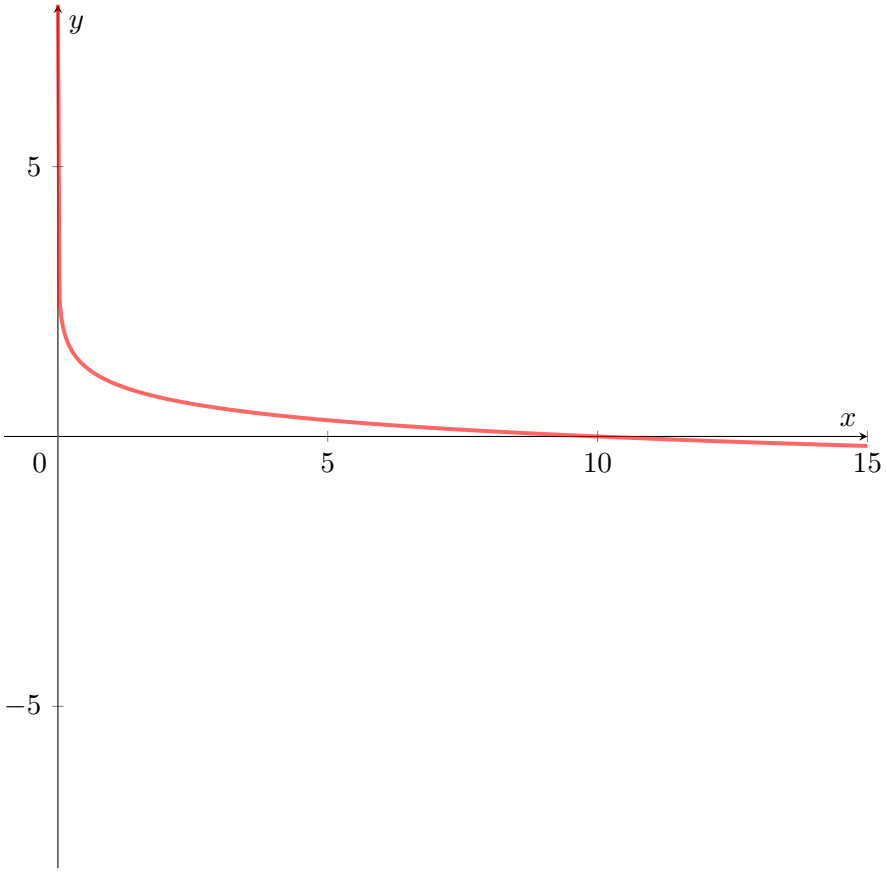
7) $y = -3x^2 + 9$



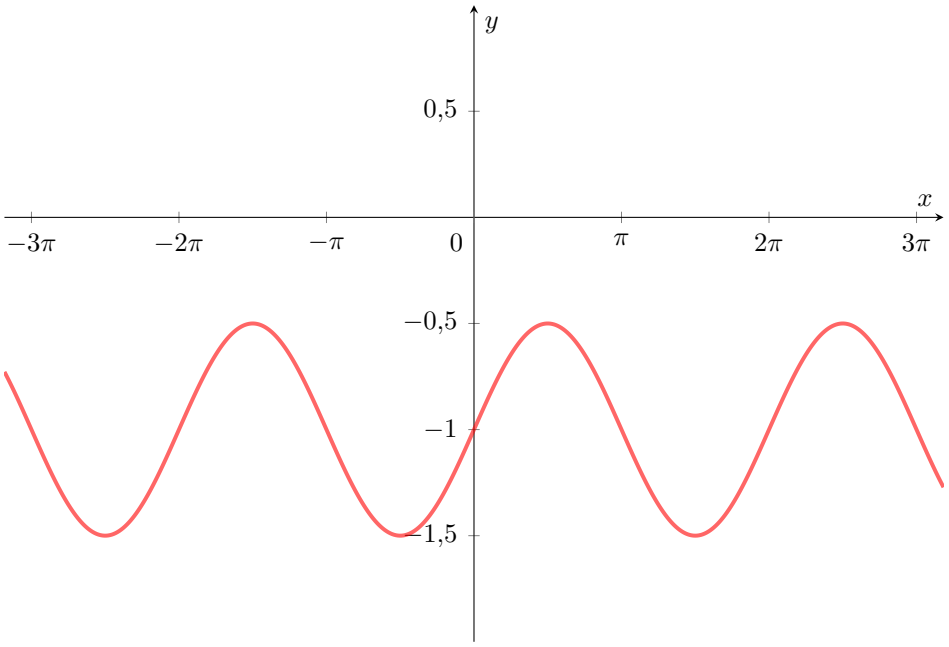
8) $y = \dfrac{1}{-3x}$



9) $y = \log_{\frac{1}{10}} x + 1$



10) $y = -1 + \frac{1}{2}\sin x$



Test 15

1) $\dfrac{1}{68}$

2) $-1,\ x \neq 0,\ x \neq \pm 2$

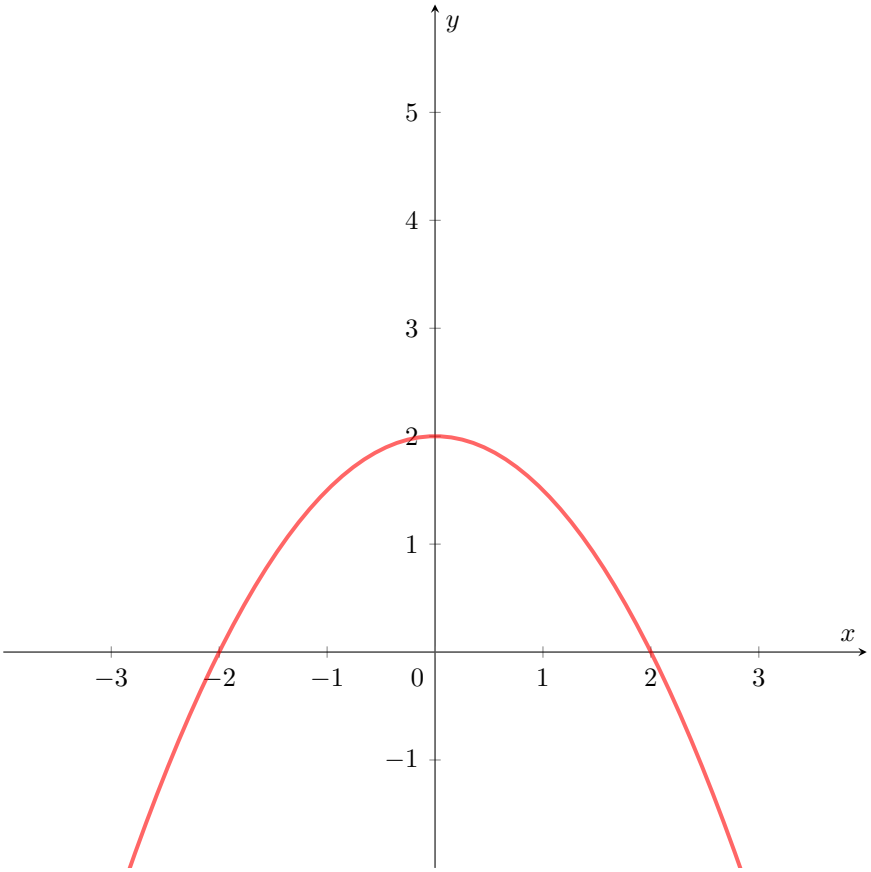
3) $x = 10$

4) $x \in \left(-\infty, -\frac{1}{3}\right) \cup (2, \infty)$

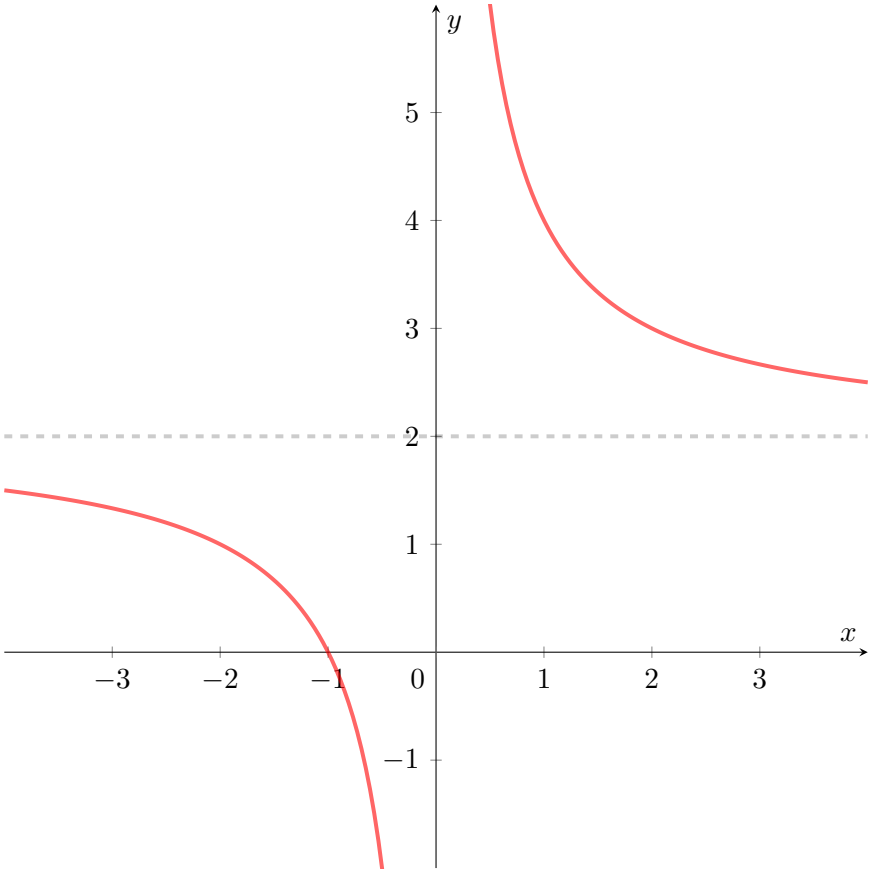
5) $x = t,\ y = 2t - 3,\ t \in \mathbb{R}$

6) $\mathrm{D}_f = \left\langle \frac{1}{6}, \infty \right)$

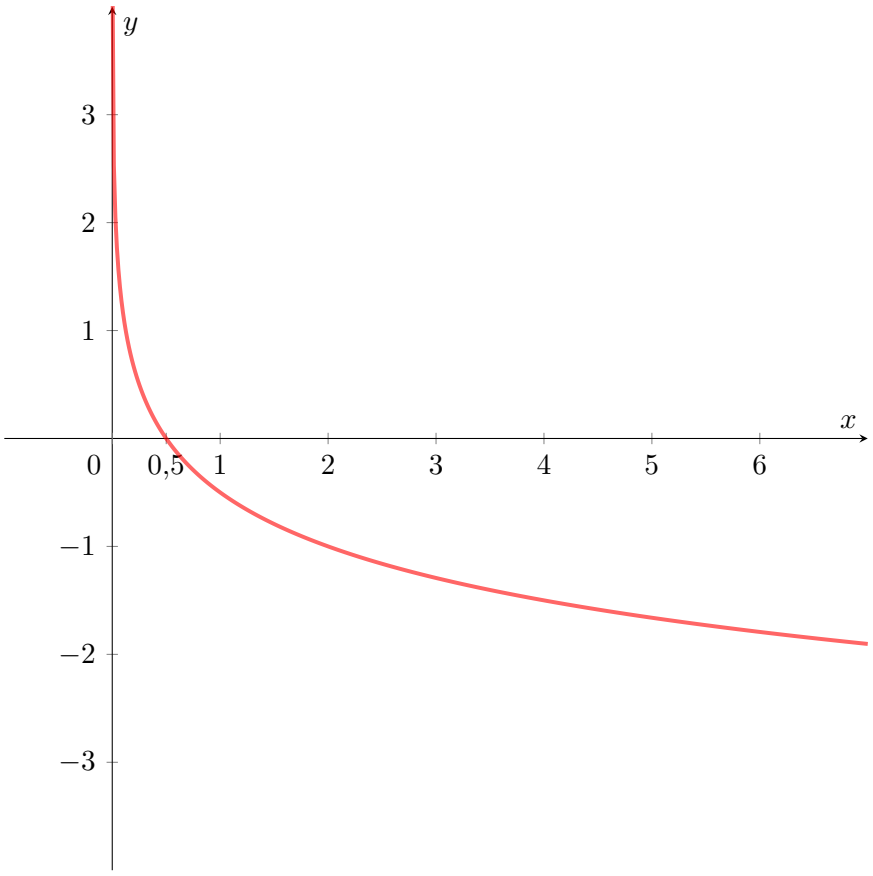
7) $y = -\dfrac{1}{2}x^2 + 2$



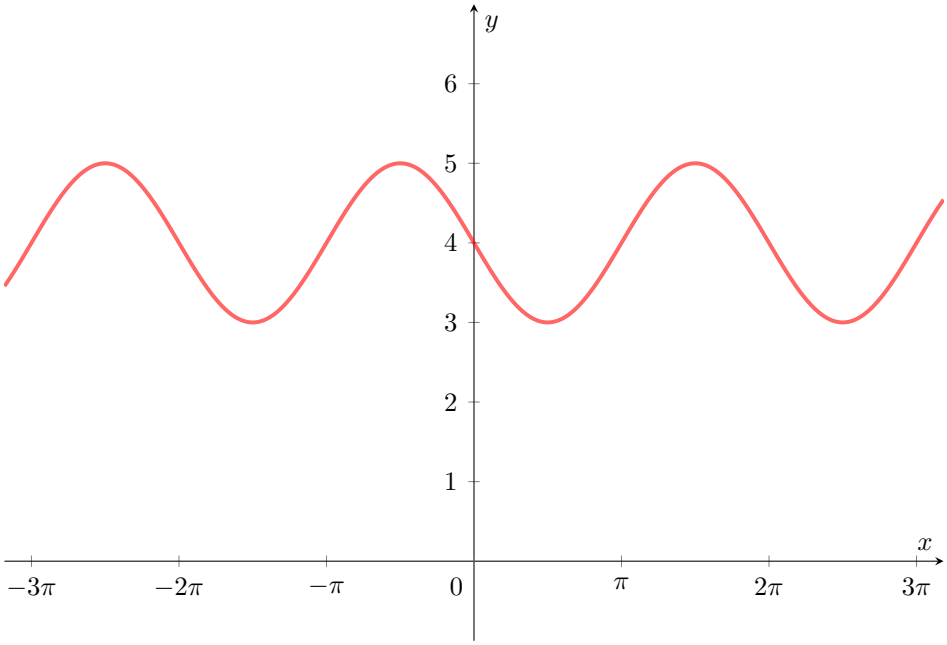
8) $y = \frac{1}{\frac{1}{2}x} + 2$



9) $y = \log_{\frac{1}{4}} x - \frac{1}{2}$



10) $4 - \sin x$



Test 16

1) $\sqrt[3]{40}$

2) $-\dfrac{2}{x+1}$, $x \neq 0$, $x \neq \pm 1$

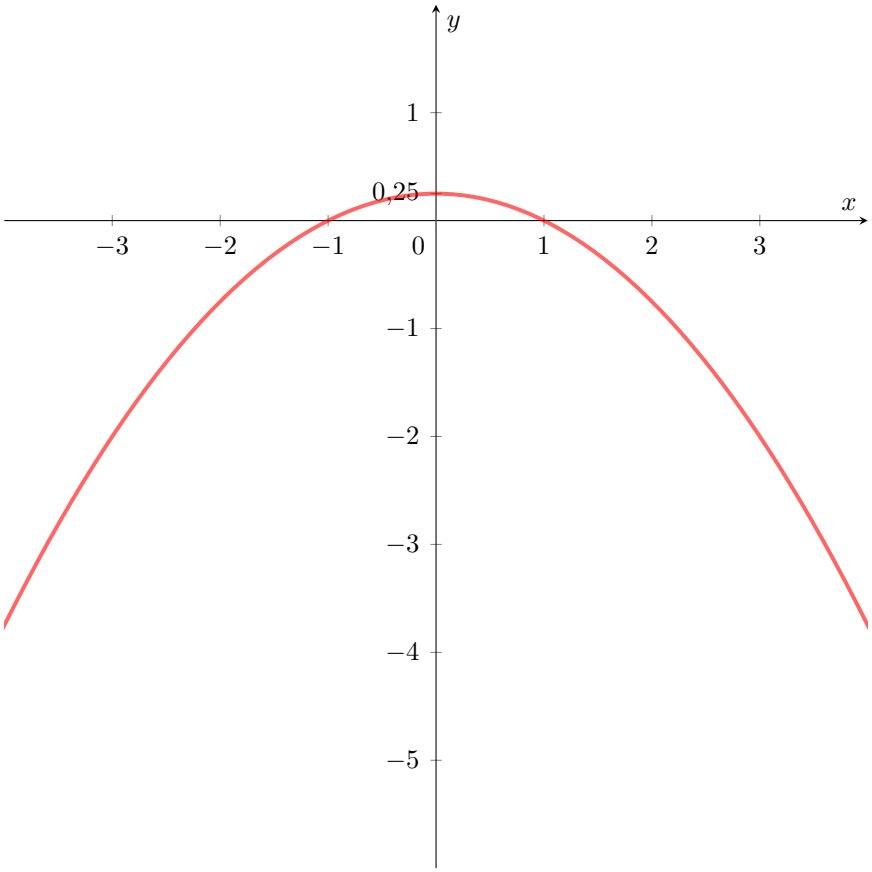
3) $x = \dfrac{79}{7}$

4) $x \in \langle -3, 5 \rangle$

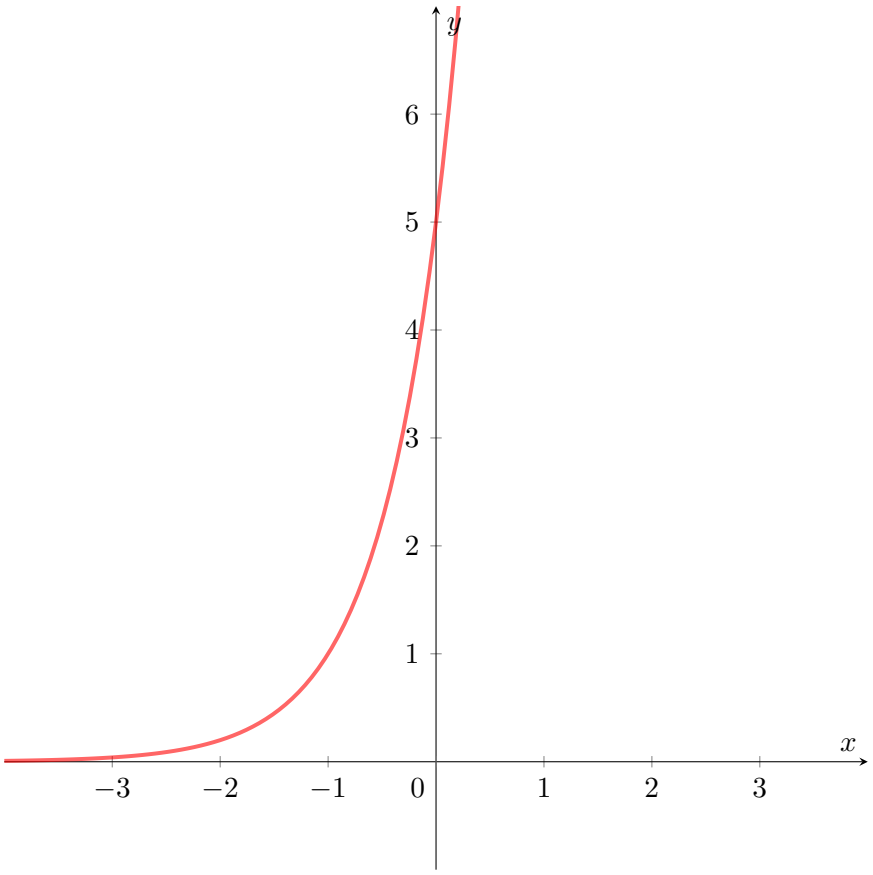
5) $x = 2 + 3t$, $y = t$, $t \in \mathbb{R}$

6) $\mathrm{D}_f = (-\infty, -3) \cup (3, \infty)$

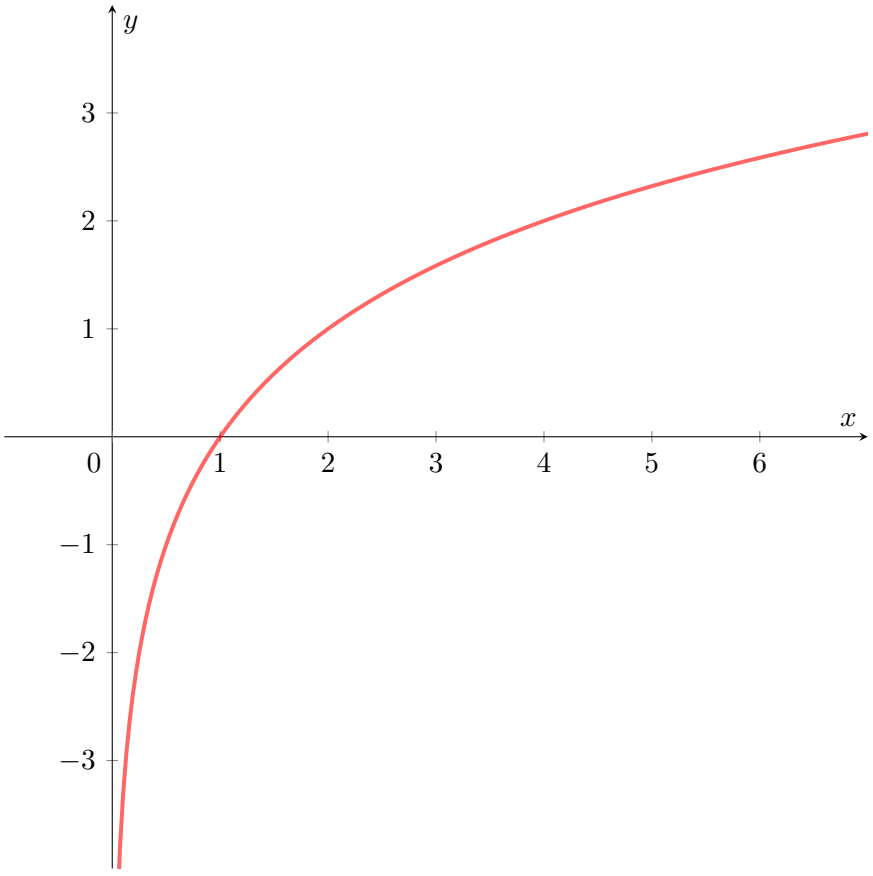
7) $y = -\dfrac{1}{4}x^2 + \dfrac{1}{4}$



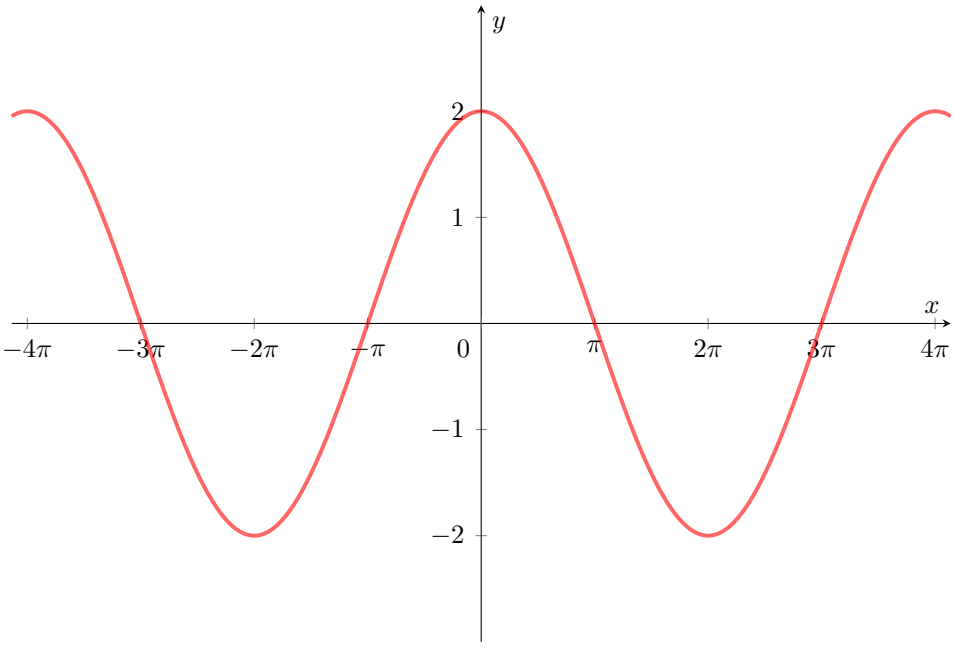
8) $y = 5^{x+1}$



9) $y = -\log_{\frac{1}{2}} x$



10) $y = 2\cos\frac{1}{2}x$



Test 17

1) $-\dfrac{1}{12}$

2) $2,\ x \neq \pm 1$

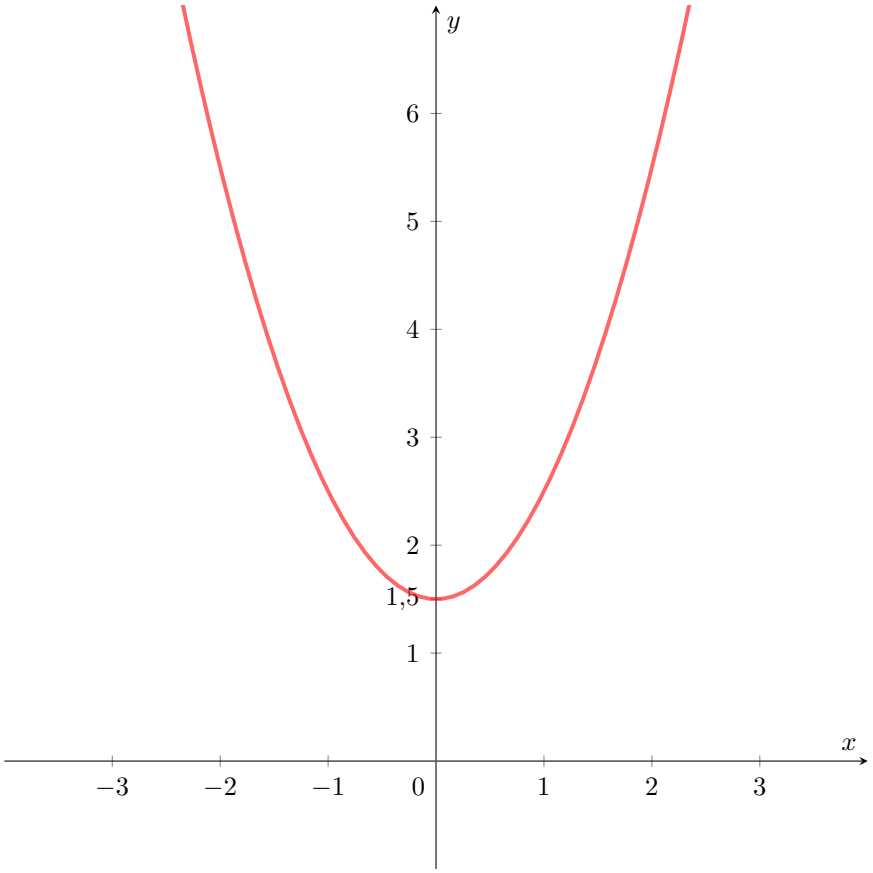
3) $x = 17$

4) $x \in \left\langle -4, \frac{1}{2} \right\rangle$

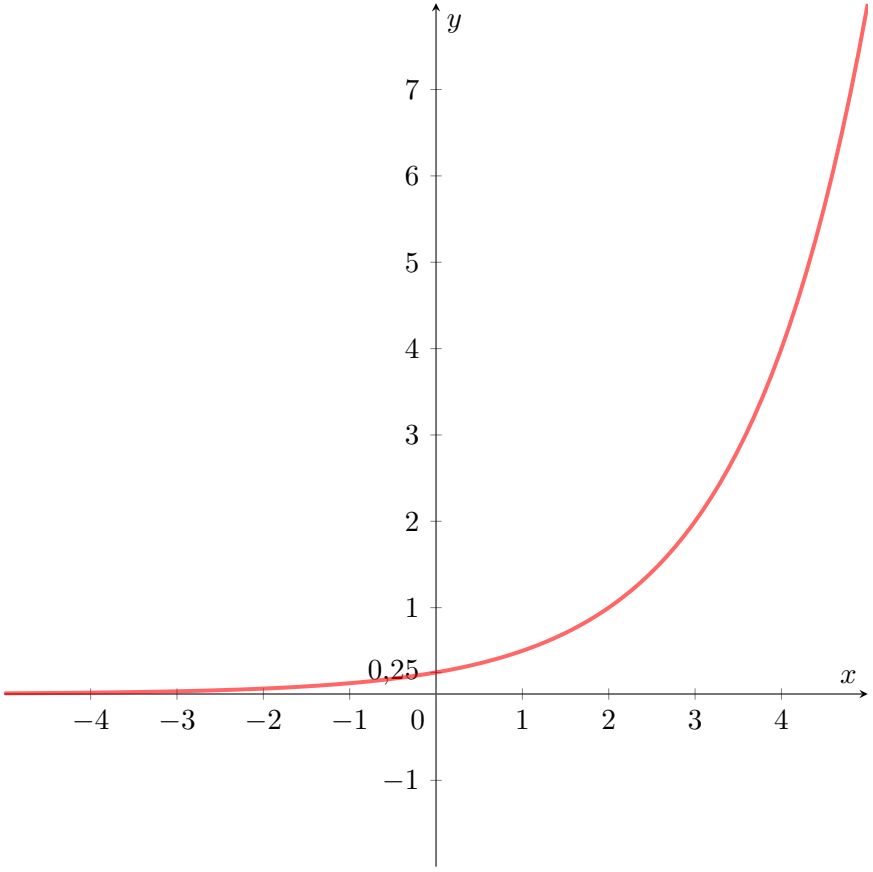
5) $x = \dfrac{2}{7},\ \dfrac{43}{7}$

6) $\mathrm{D}_f = (-2, 2)$

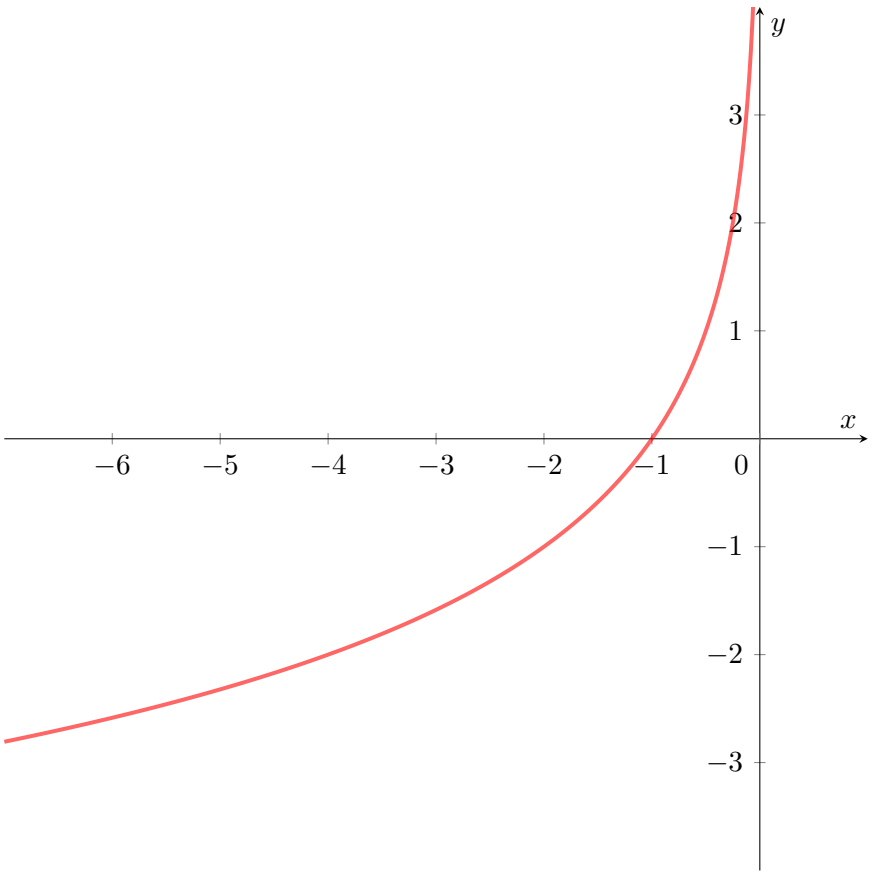
7) $y = x^2 + \dfrac{3}{2}$



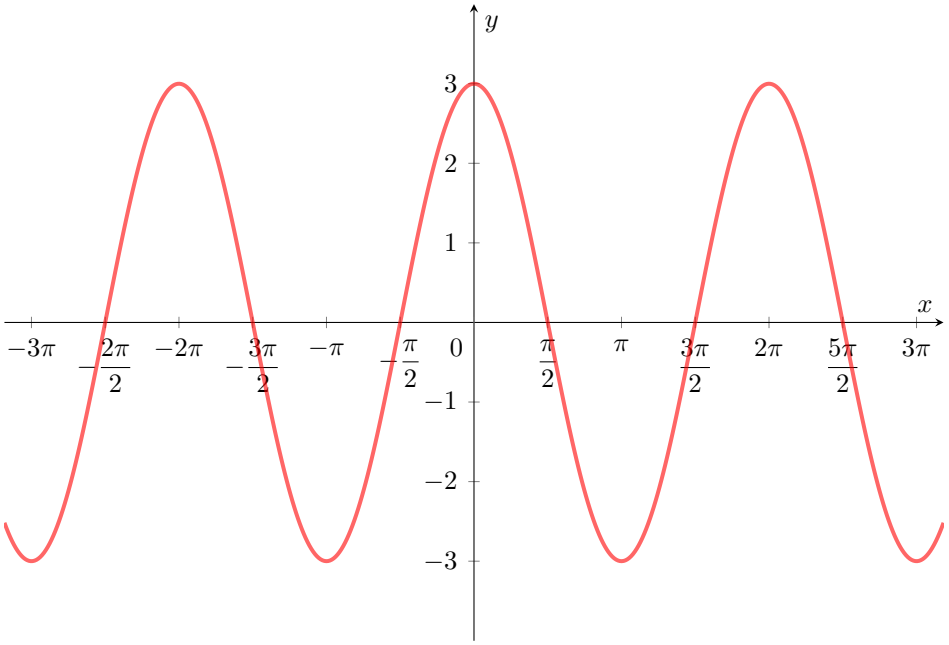
8) $y = 2^{x-2}$



9) $y = \log_{\frac{1}{2}}(-x)$



10) $y = 3\cos(-x)$



Test 18

1) $\dfrac{1024}{65}$

2) $-\dfrac{1}{x}$, $x \neq 0$, $x \neq \pm 1$

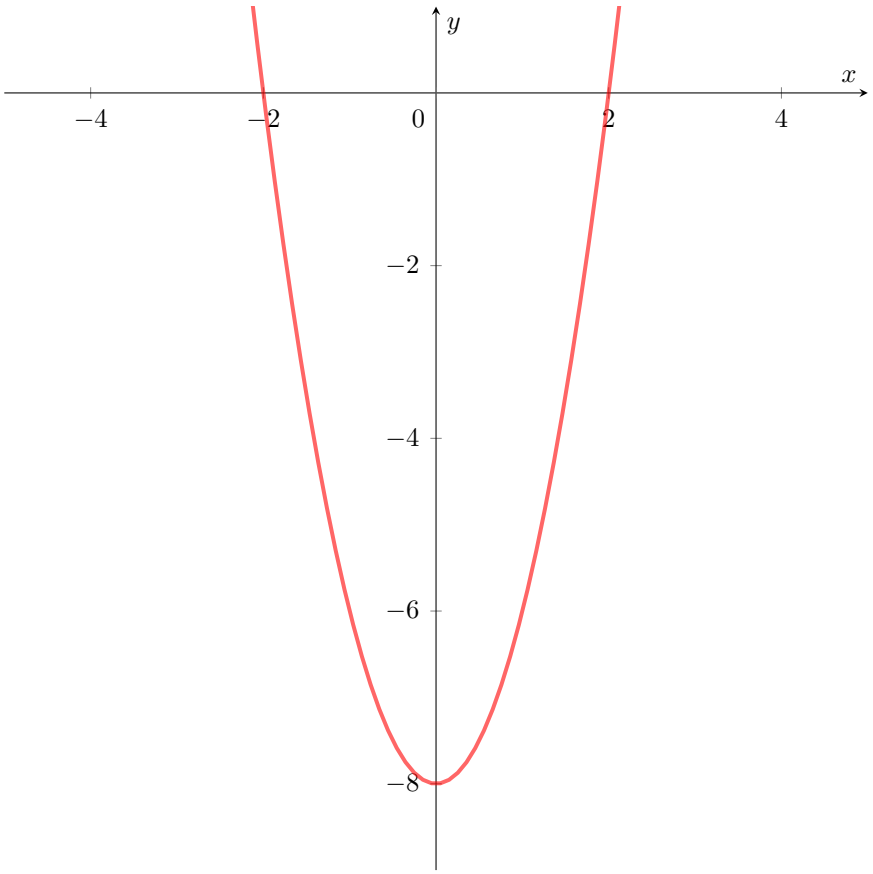
3) nemá řešení

4) $x \in \left\langle \frac{1}{3}, 2 \right\rangle$

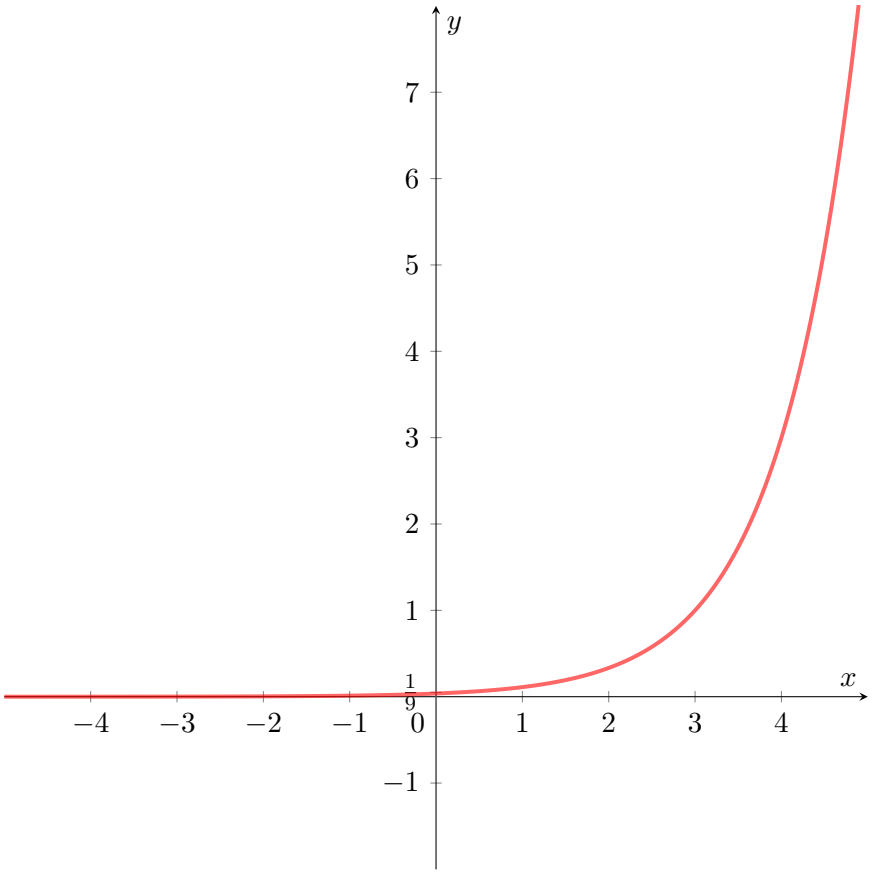
5) $x = -\dfrac{7}{2}$, $y = 2$

6) $\mathrm{D}_f = \mathbb{R} \setminus \{1\}$

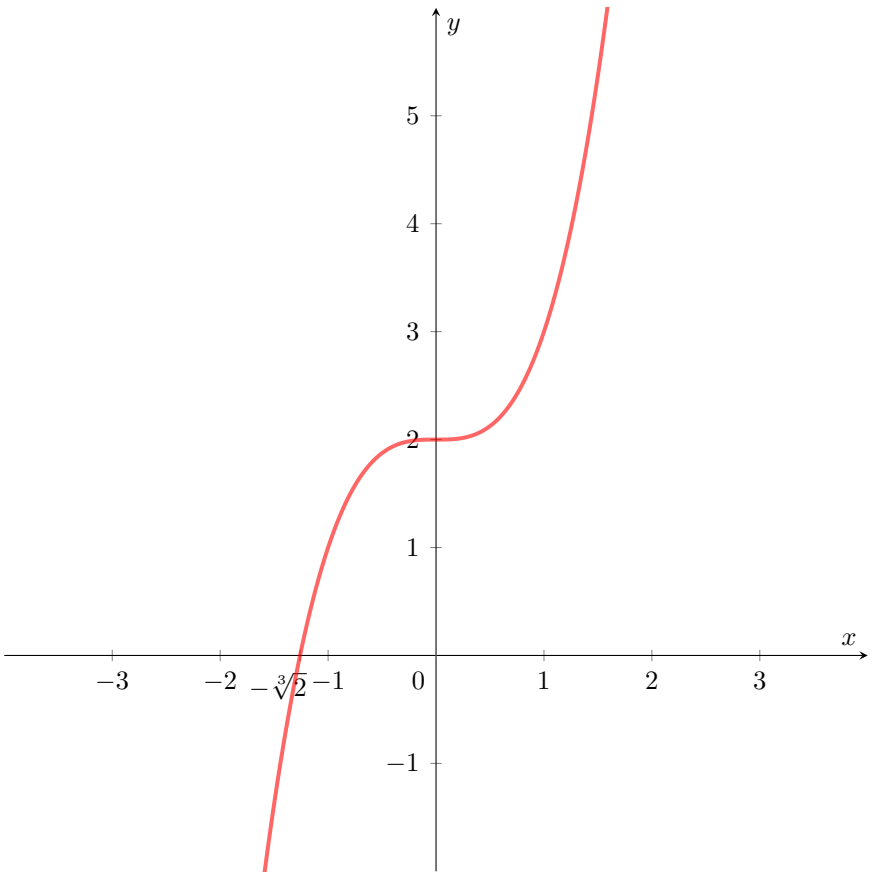
7) $y = 2x^2 - 8$



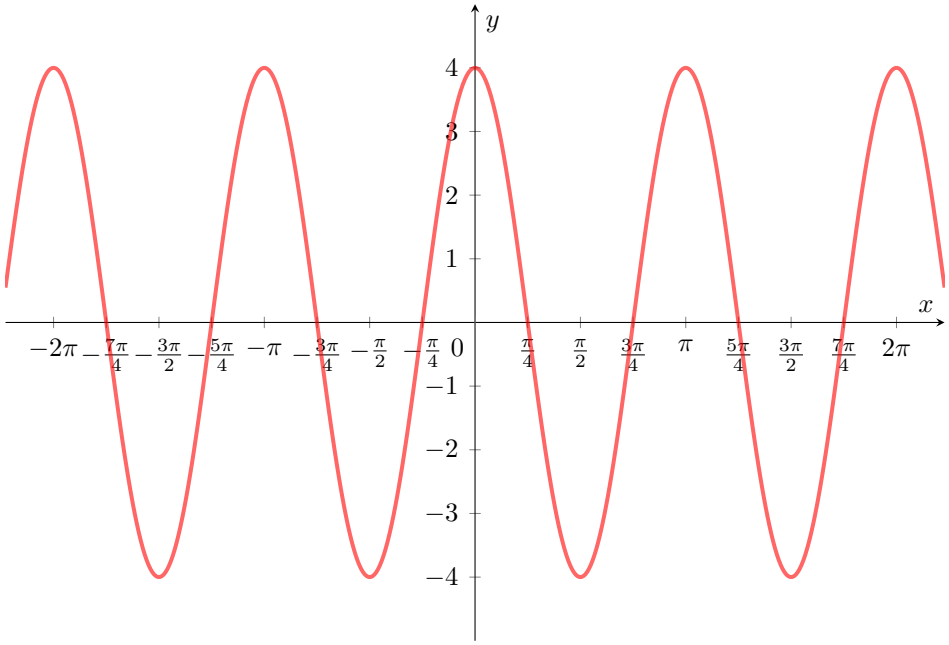
8) $y = 3^{x-3}$



9) $x^3 + 2$



10) $4\cos 2x$



Test 19

1) $\dfrac{32}{9}$

2) $-\dfrac{1}{x}$, $x \neq 0$, $x \neq \pm 1$

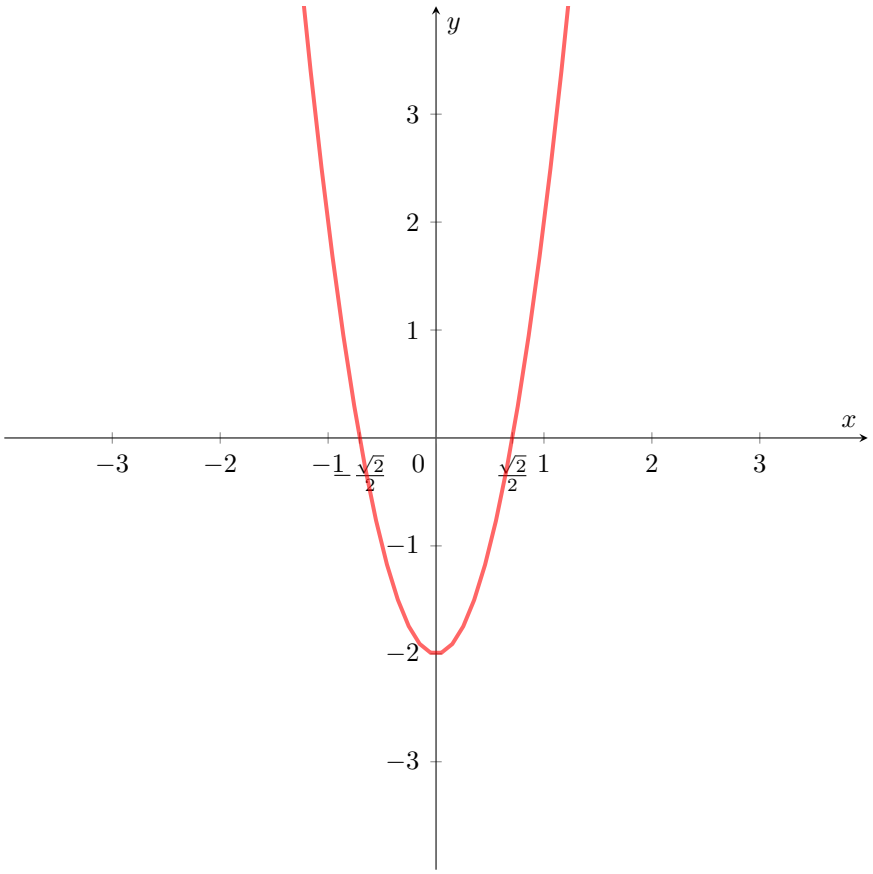
3) $x = \dfrac{35}{3}$

4) $x \in \left(-\infty, \frac{-5-\sqrt{41}}{4}\right\rangle \cup \left\langle \frac{-5+\sqrt{41}}{4}, \infty\right)$

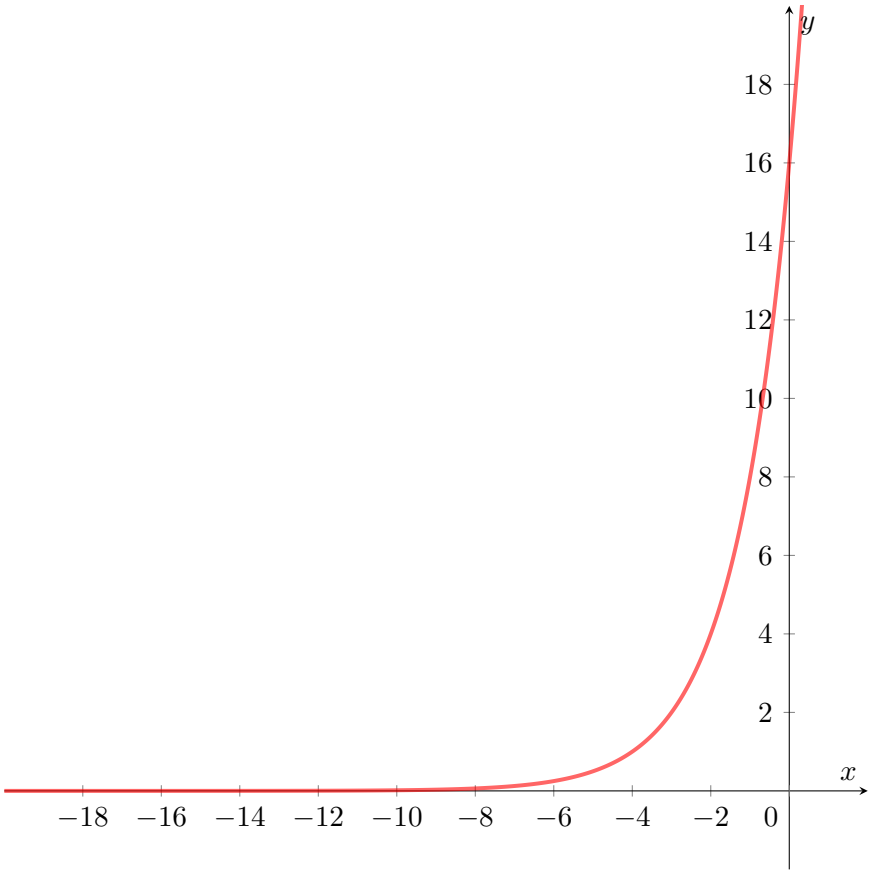
5) $x = \dfrac{7}{2}$, $y = 5$

6) $\mathrm{D}_f = \left(-\frac{1}{2}, \frac{1}{2}\right)$

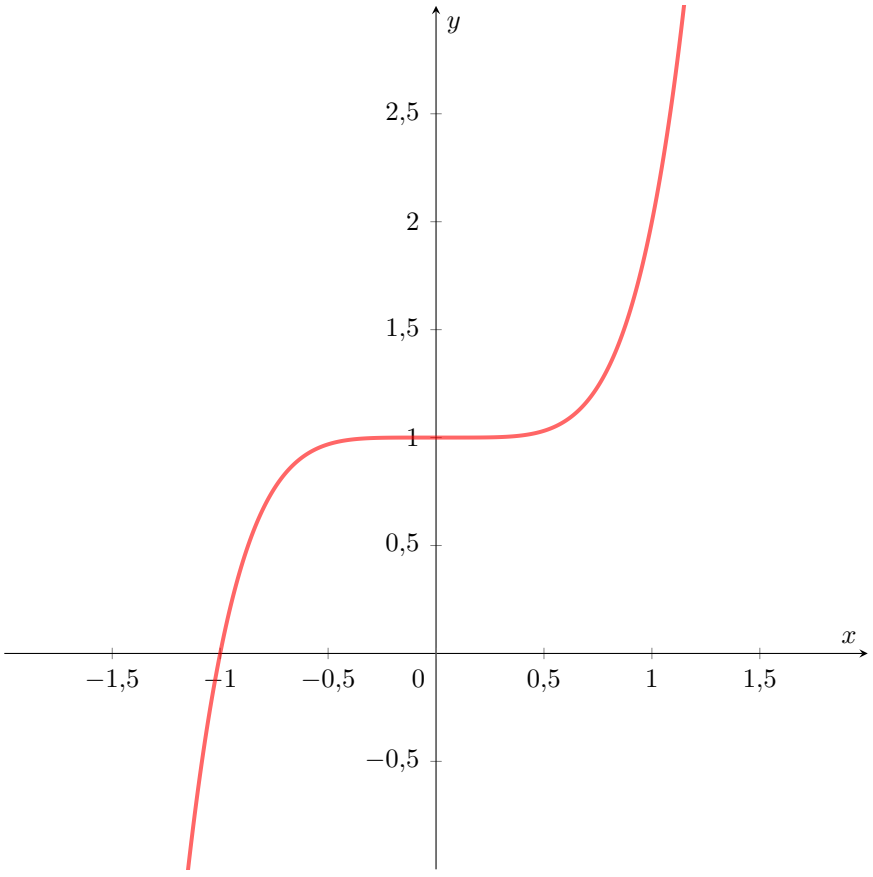
7) $y = 4x^2 - 2$



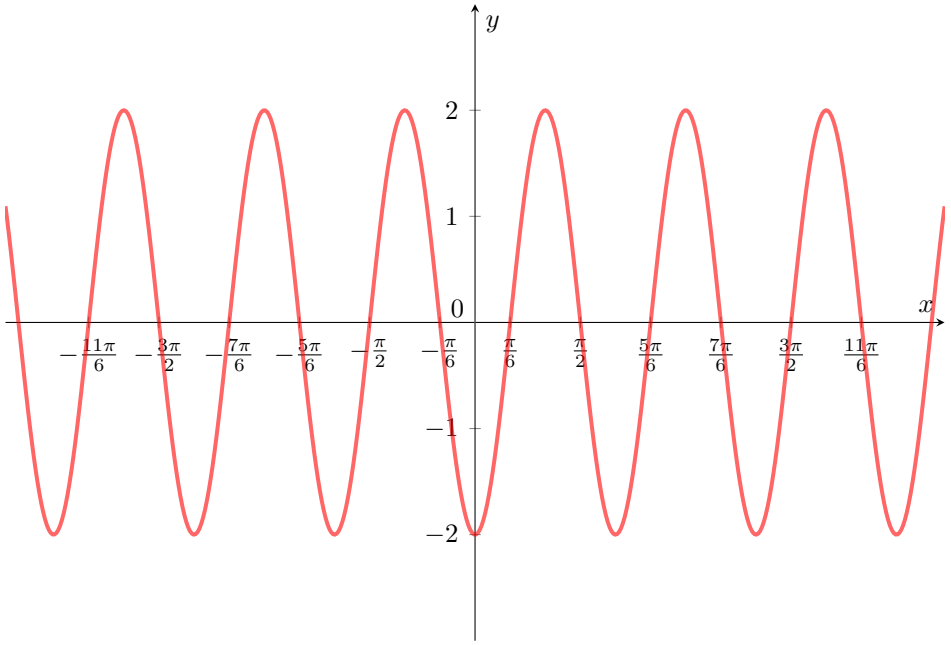
8) $y = 2^{x+4}$


y
18
16
14
12
10
8
6
4
2
x
−18
−16
−14
−12
−10
−8
−6
−4
−2
0

9) $y = x^5 + 1$


y
2,5
2
1,5
1
0,5
−0,5
x
−1,5
−1
−0,5
0
0,5
1
1,5

10) $y = (-2)\cos 3x$


y
2
1
0
−1
−2
x
$-\frac{11\pi}{6}$
$-\frac{3\pi}{2}$
$-\frac{7\pi}{6}$
$-\frac{5\pi}{6}$
$-\frac{\pi}{2}$
$-\frac{\pi}{6}$
$\frac{\pi}{6}$
$\frac{\pi}{2}$
$\frac{5\pi}{6}$
$\frac{7\pi}{6}$
$\frac{3\pi}{2}$
$\frac{11\pi}{6}$

Test 20

1) 2

2) $\dfrac{2\left(x^3-2x+4\right)}{x\left(x^2-1\right)}$, $x \neq 0$, $x \neq \pm 1$, $x \neq \pm 2$

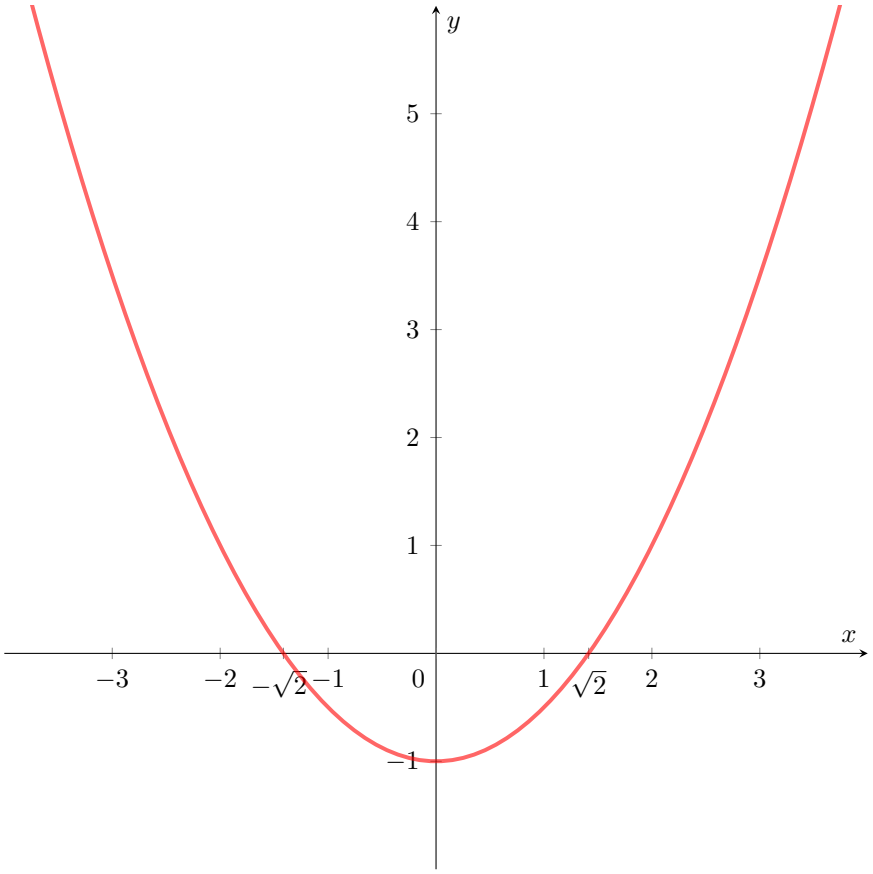
3) $x = \dfrac{123}{61}$

4) $x \in \left(-\infty, -\frac{1}{2}\right\rangle \cup \langle 2, \infty)$

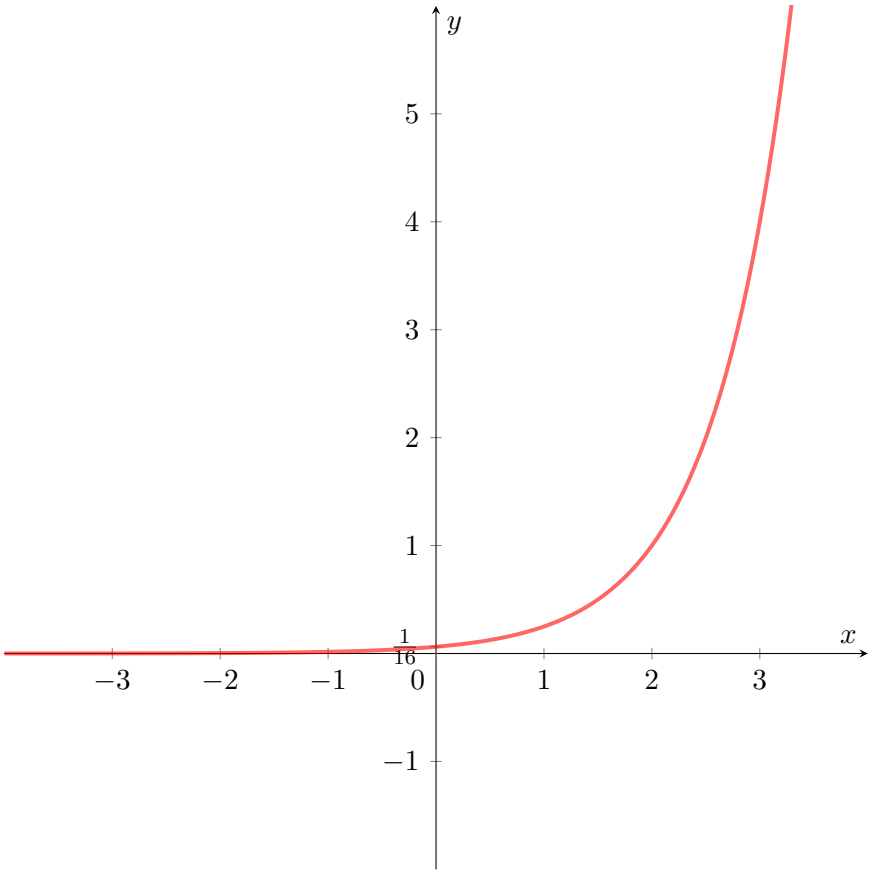
5) $x = -\dfrac{3}{2}$, $y = \dfrac{3}{2}$

6) $\mathrm{D}_f = \left(-\infty, -\sqrt{3}\right) \cup \left(\sqrt{3}, \infty\right)$

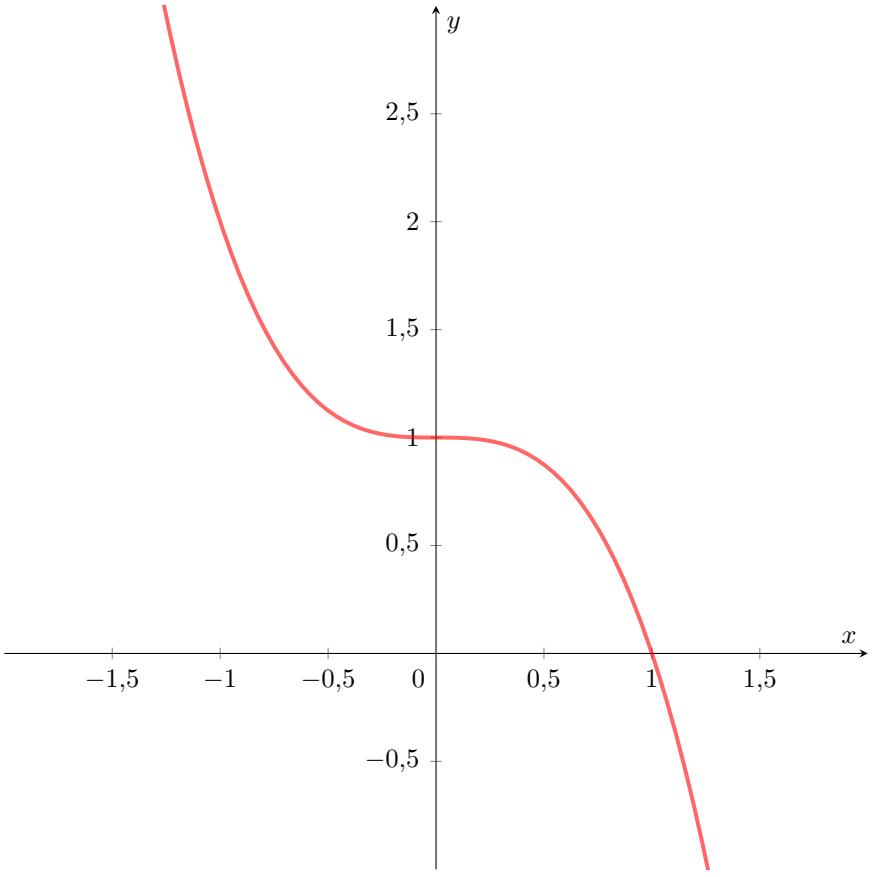
7) $y = \dfrac{1}{2}x^2 - 1$



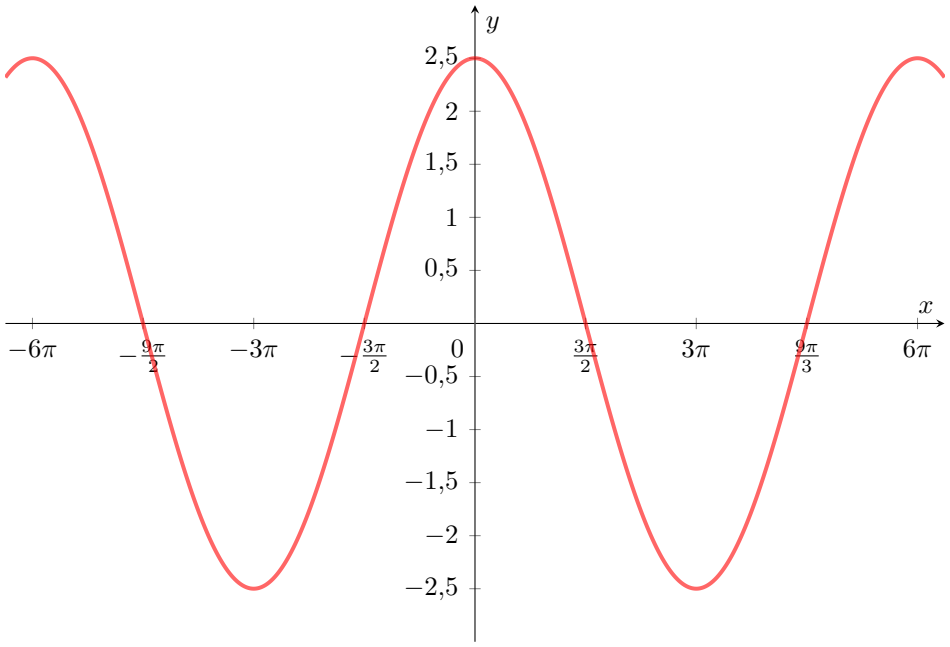
8) $y = 4^{x-2}$



9) $y = 1 - x^3$



10) $y = 2{,}5\cos\frac{1}{3}x$



Test 21

1) $\dfrac{32}{3}$

2) $\dfrac{x+1}{x-1}$, $x \neq 0$, $x \neq \pm 1$

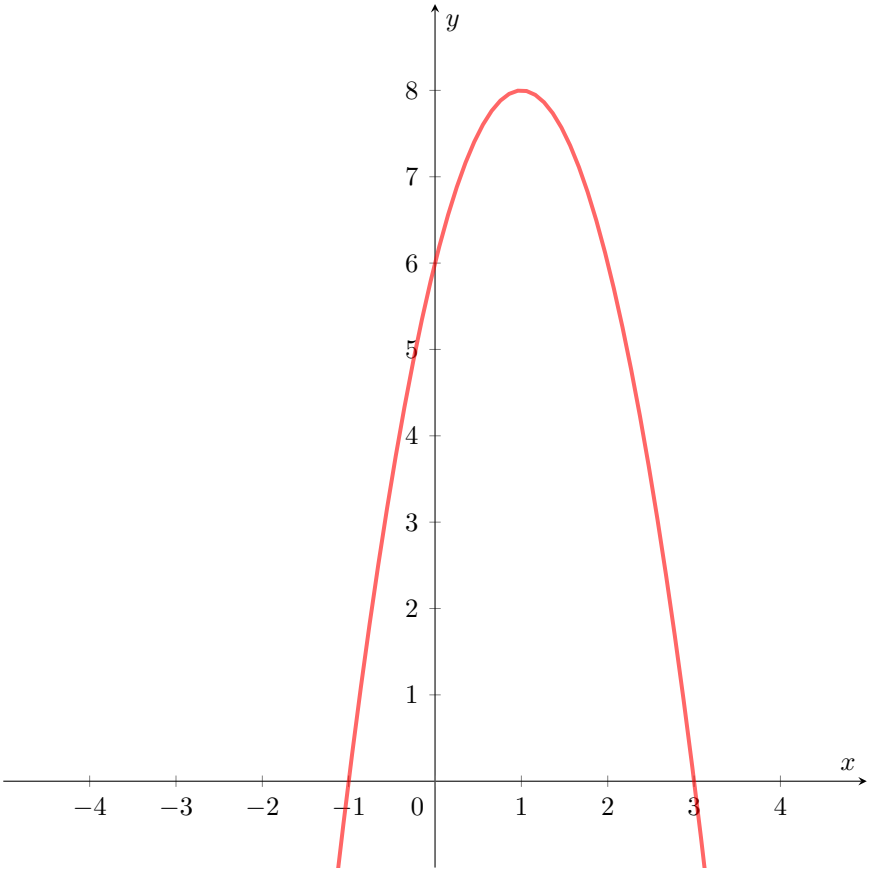
3) $x = 13$

4) $x \in (1, 3)$

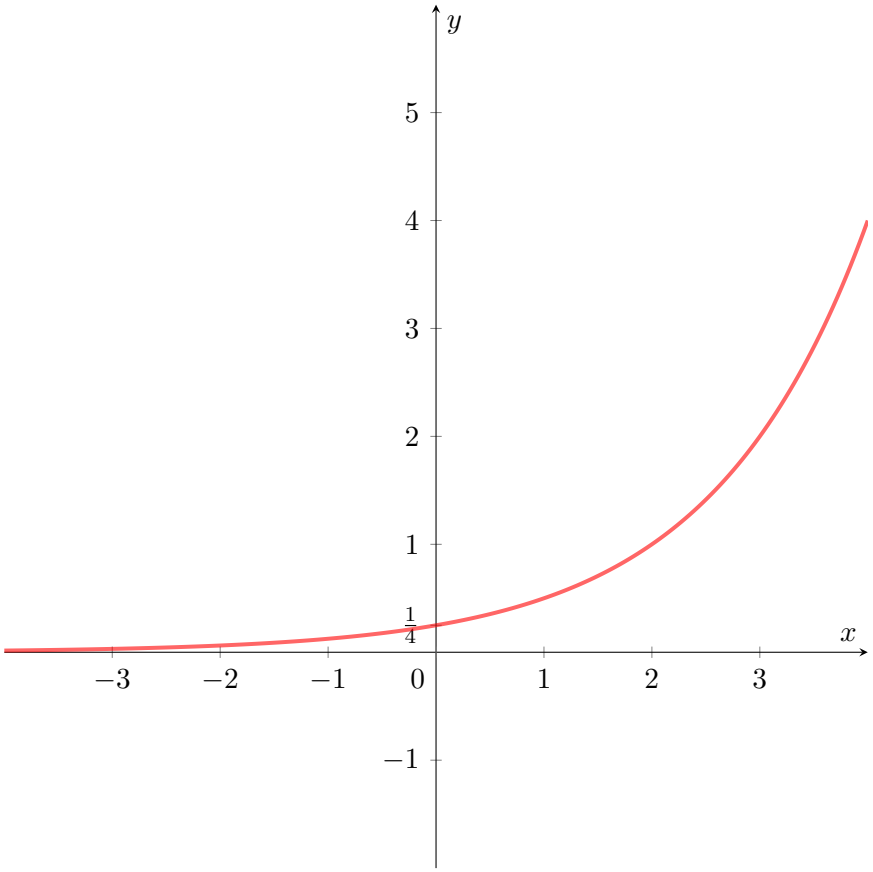
5) $x = 0$, $y = \dfrac{1}{2}$

6) $\mathrm{D}_f = (4, \infty)$

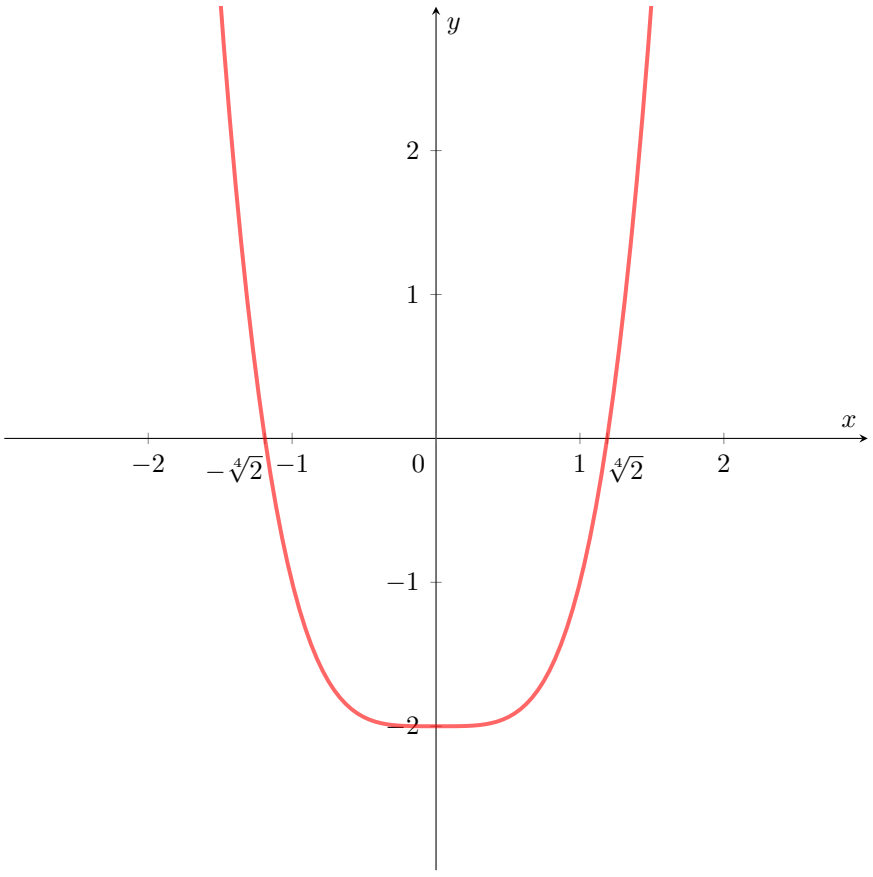
7) $y = 6 + 4x - 2x^2$



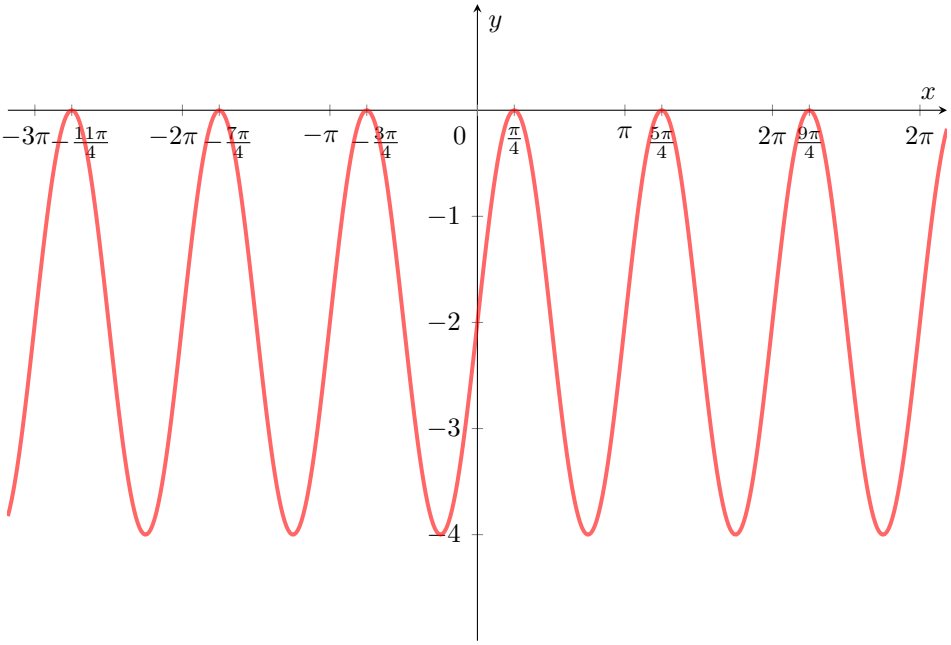
8) $y = \left(\frac{1}{2}\right)^{-x+2}$



9) $y = x^4 - 2$



10) $y = -2 + 2\sin 2x$


y
x
-3π
$-\frac{11\pi}{4}$
-2π
$-\frac{7\pi}{4}$
$-\pi$
$-\frac{3\pi}{4}$
0
$\frac{\pi}{4}$
π
$\frac{5\pi}{4}$
2π
$\frac{9\pi}{4}$
2π
-1
-2
-3
-4

Test 22

1) $\dfrac{225}{4096}$

2) $\dfrac{x^2}{x^2-2}$, $x \neq 0$, $x \neq 1$, $x \neq \pm\sqrt{2}$

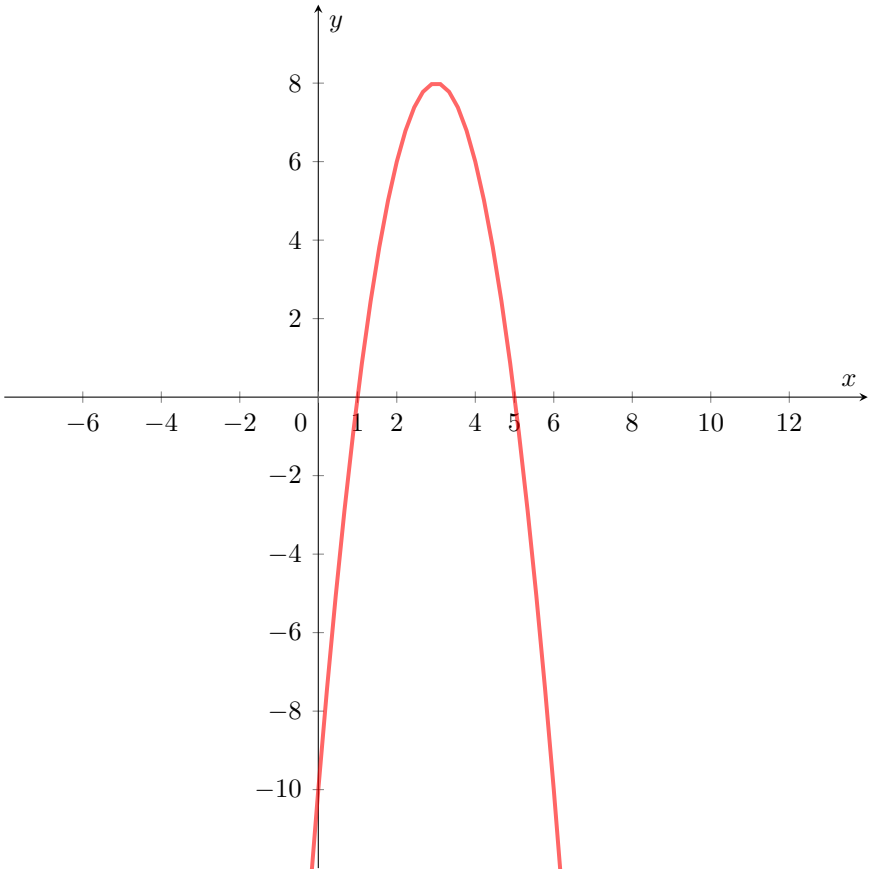
3) všechna $x \in \mathbb{R}$

4) $x \in \left(-\infty, \frac{1}{2}\right) \cup (2, \infty)$

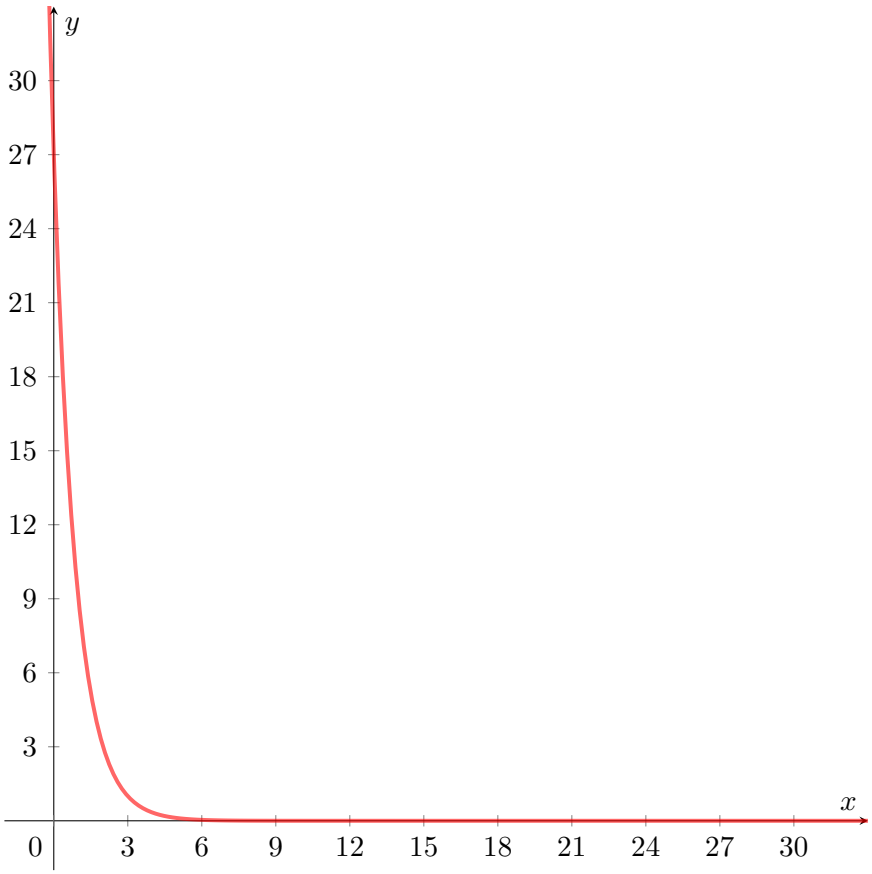
5) $x = -1$, $y = 0$

6) $\mathrm{D}_f = (-\infty, 4)$

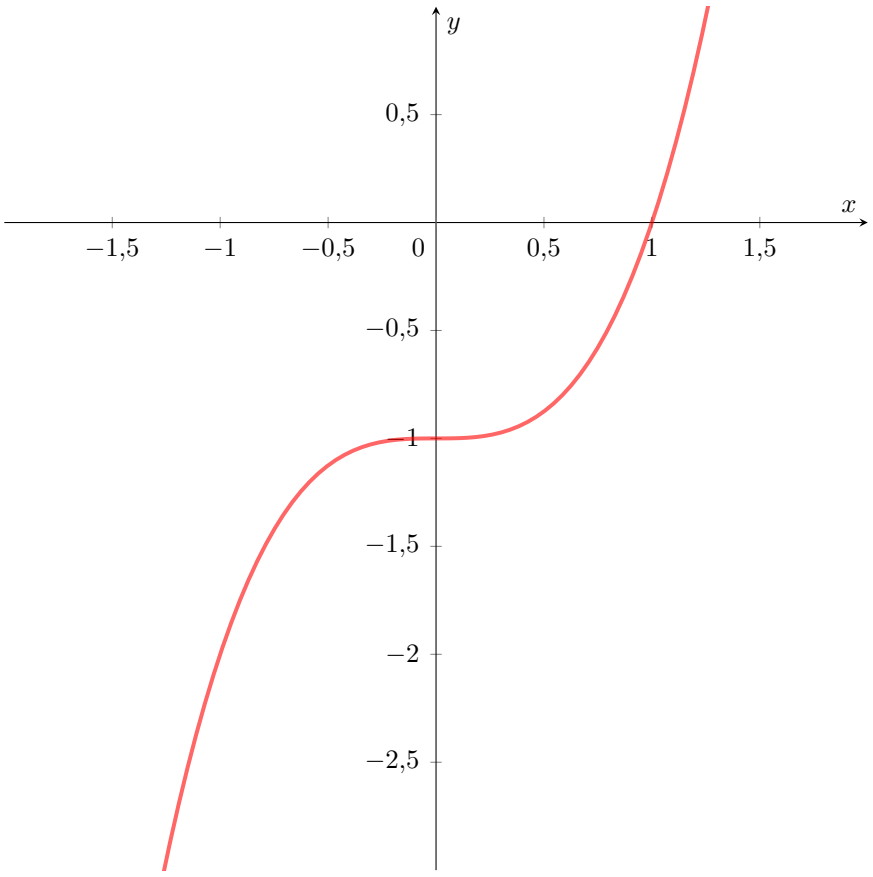
7) $y = -10 + 12x - 2x^2$



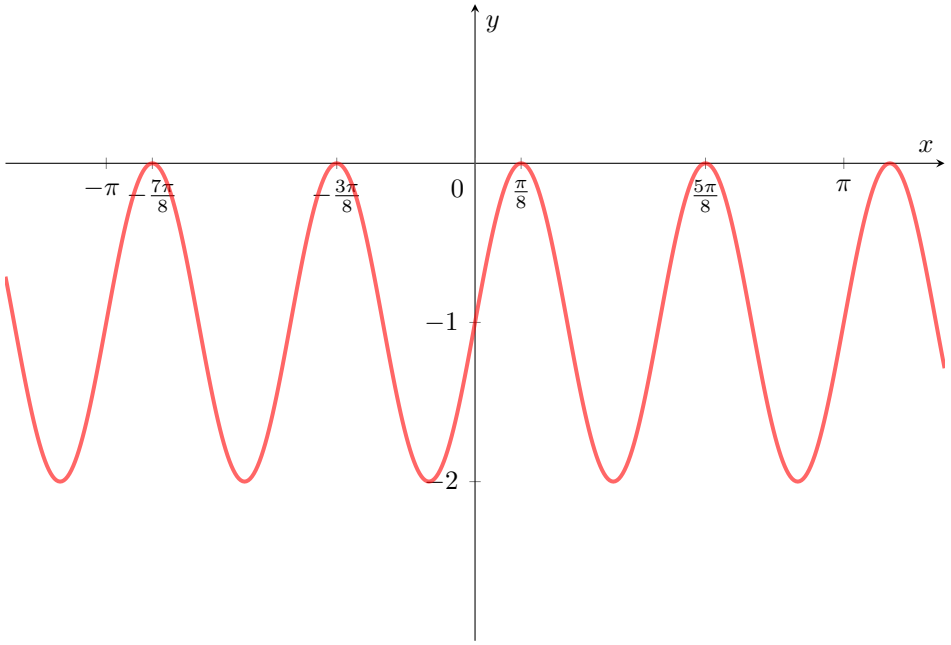
8) $y = \left(\frac{1}{3}\right)^{x-3}$



9) $y = x^3 - 1$



10) $y = \sin 4x - 1$



Test 23

1) $\dfrac{64}{31}$

2) $-\dfrac{2}{x+2}$, $x \neq \pm 2$

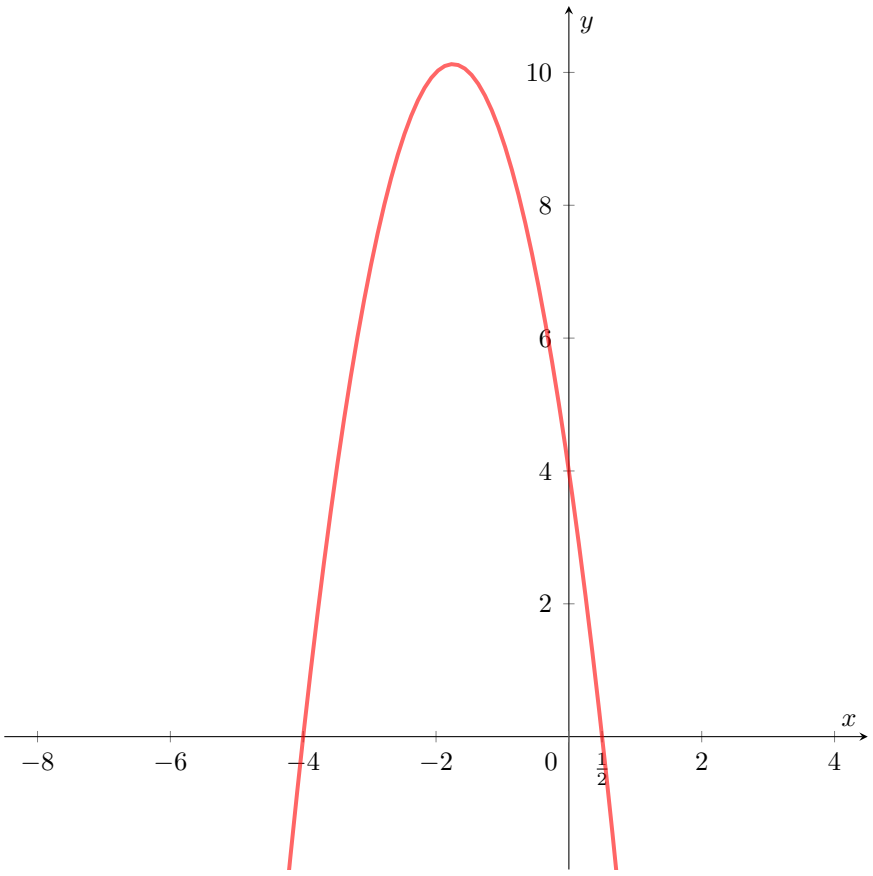
3) $x = \dfrac{22}{73}$

4) $x \in (-\infty, -3) \cup \left(-\frac{1}{3}, \infty\right)$

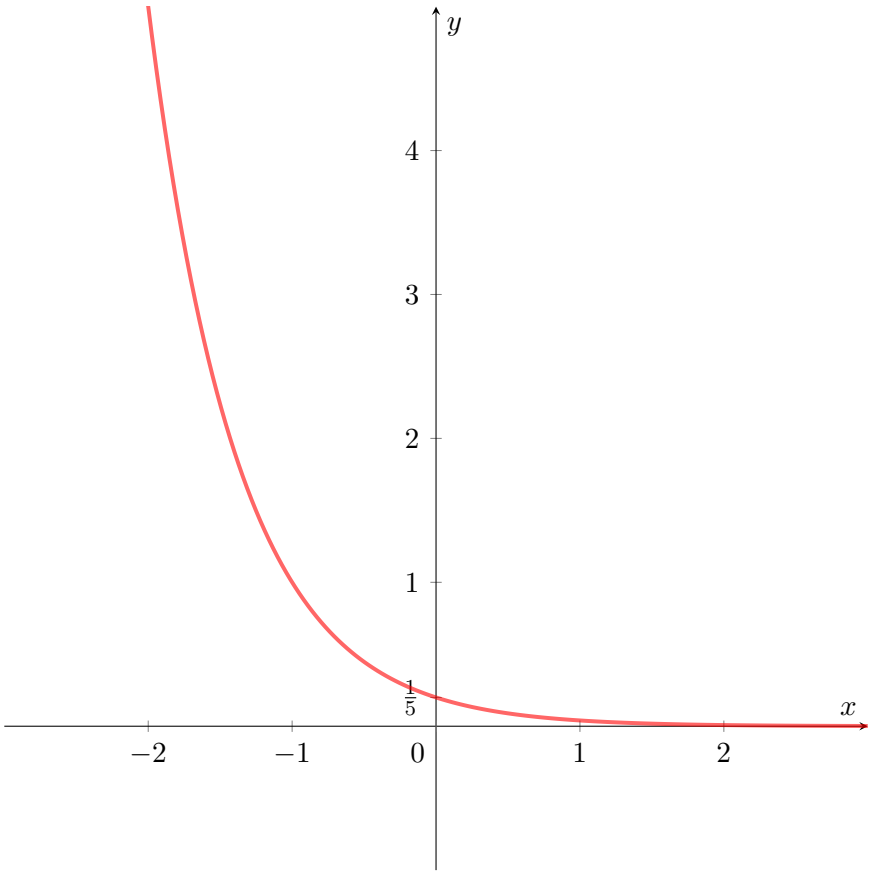
5) nemá řešení

6) $\mathrm{D}_f = \left(-\infty, \frac{1}{2}\right)$

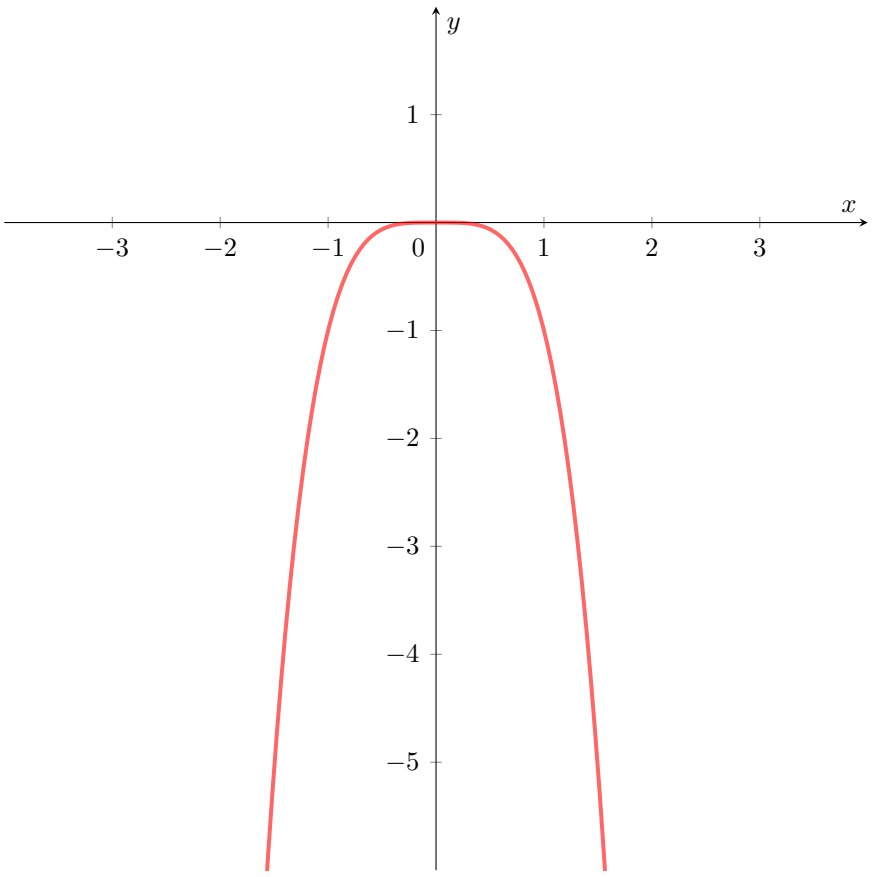
7) $y = 4 - 7x - 2x^2$



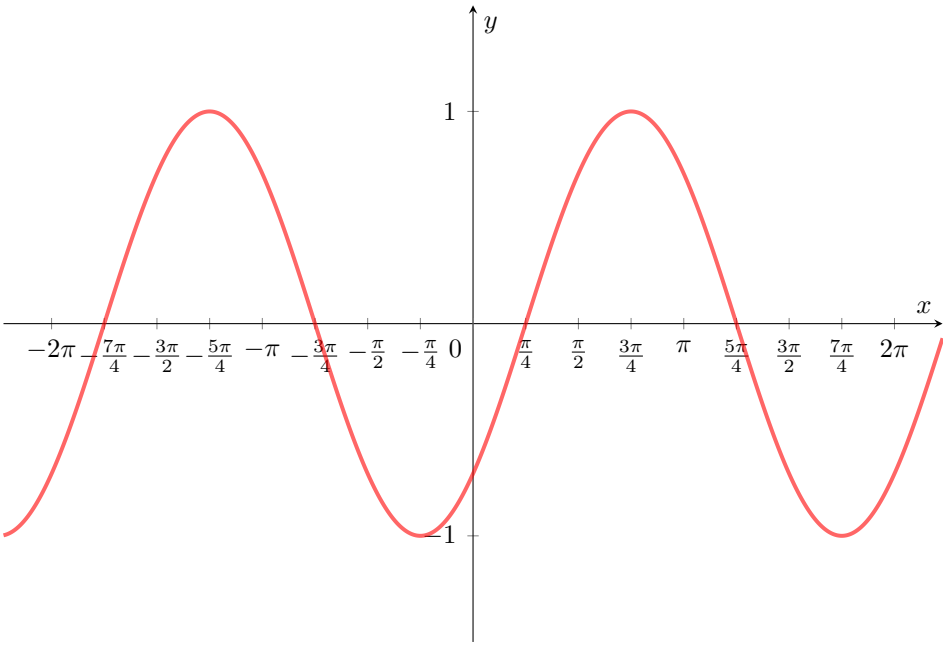
8) $y = \left(\frac{1}{5}\right)^{x+1}$



9) $y = -x^4$



10) $y = \sin\left(x - \frac{\pi}{4}\right)$



Test 24

1) 0

2) $\dfrac{4}{x^2-4}$, $x \neq \pm 2$

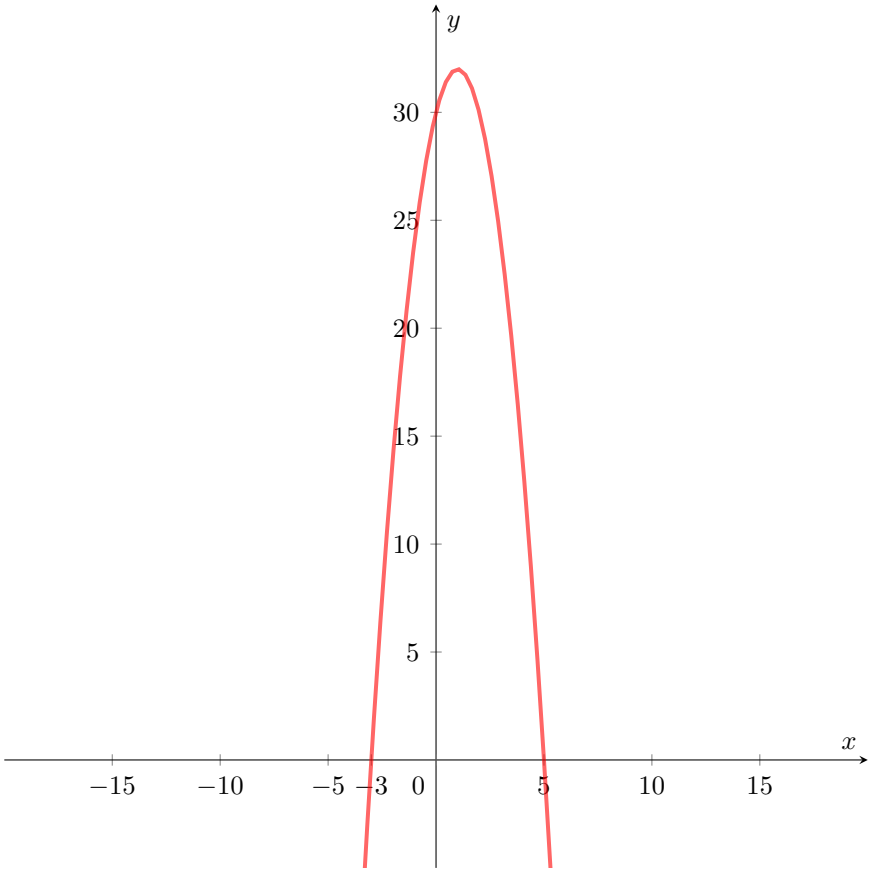
3) $x = -\dfrac{5}{38}$

4) $x \in \left(-\frac{2}{3}, \frac{1}{2}\right)$

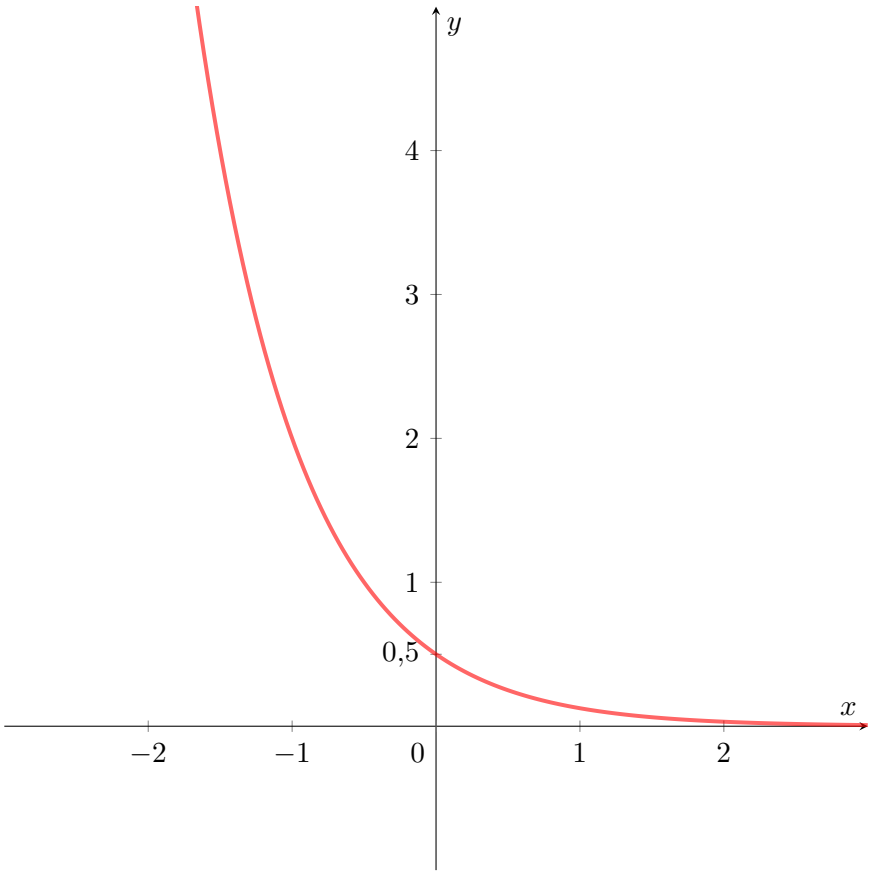
5) $x = \dfrac{1}{3}$, $y = \dfrac{2}{3}$

6) $\mathrm{D}_f = (3, \infty)$

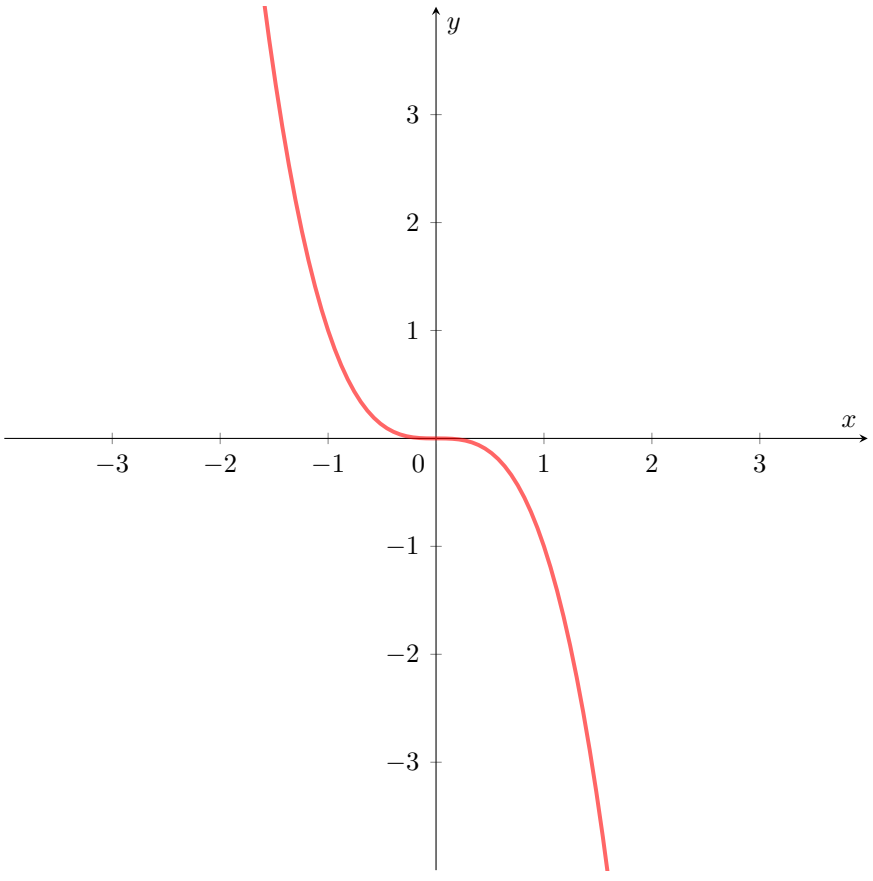
7) $y = 30 + 4x - 2x^2$



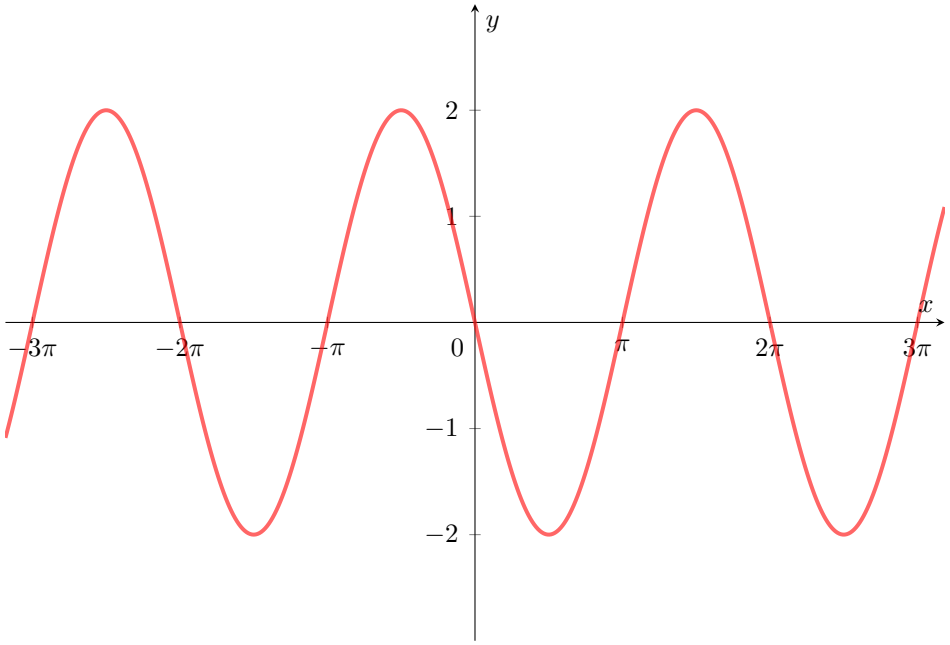
8) $y = \left(\frac{1}{2}\right)^{2x+1}$



9) $y = -x^3$



10) $y = 2\sin(x + \pi)$



Test 25

1) $\dfrac{1}{30}$

2) $x+2,\ x \neq \pm 1,\ x \neq 2$

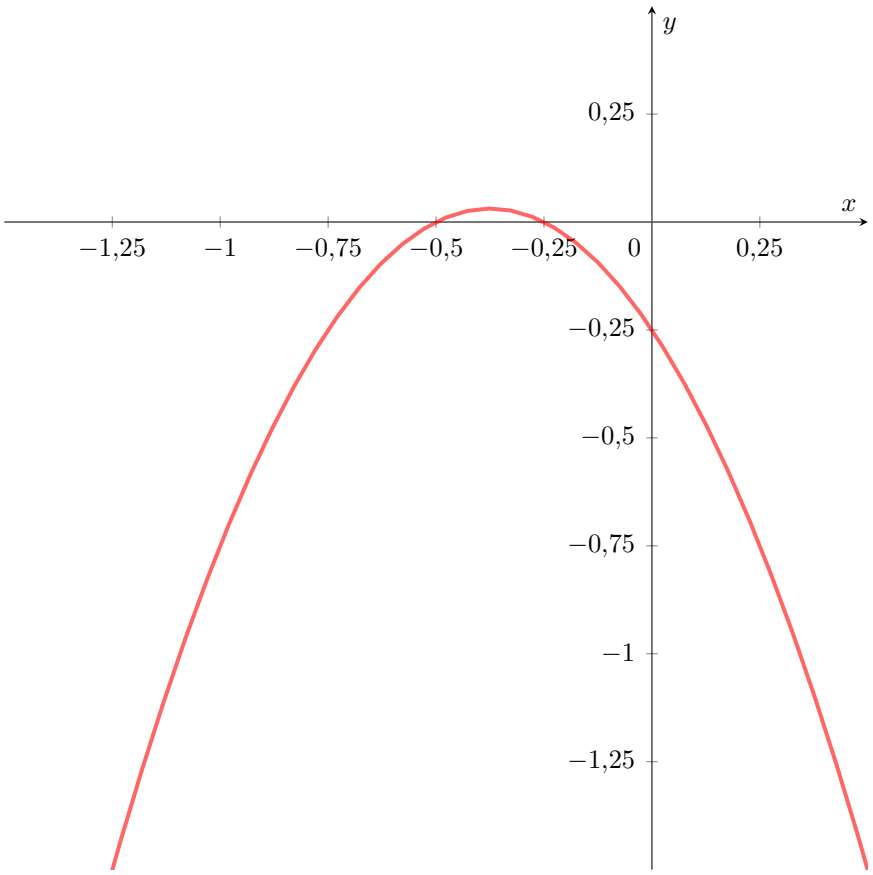
3) $x = 8$

4) $x \in \left(-\infty, -\frac{2}{3}\right) \cup \left(\frac{3}{2}, \infty\right)$

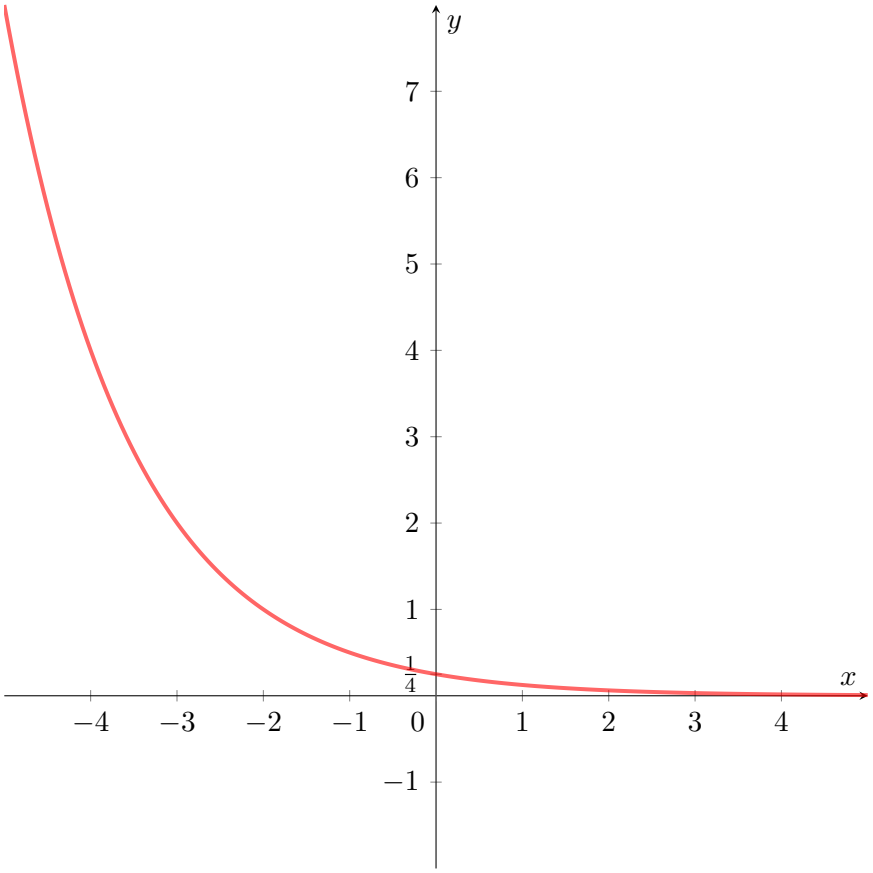
5) $x = 8,\ y = 4$

6) $\mathrm{D}_f = (-\infty, -3) \cup (3, \infty)$

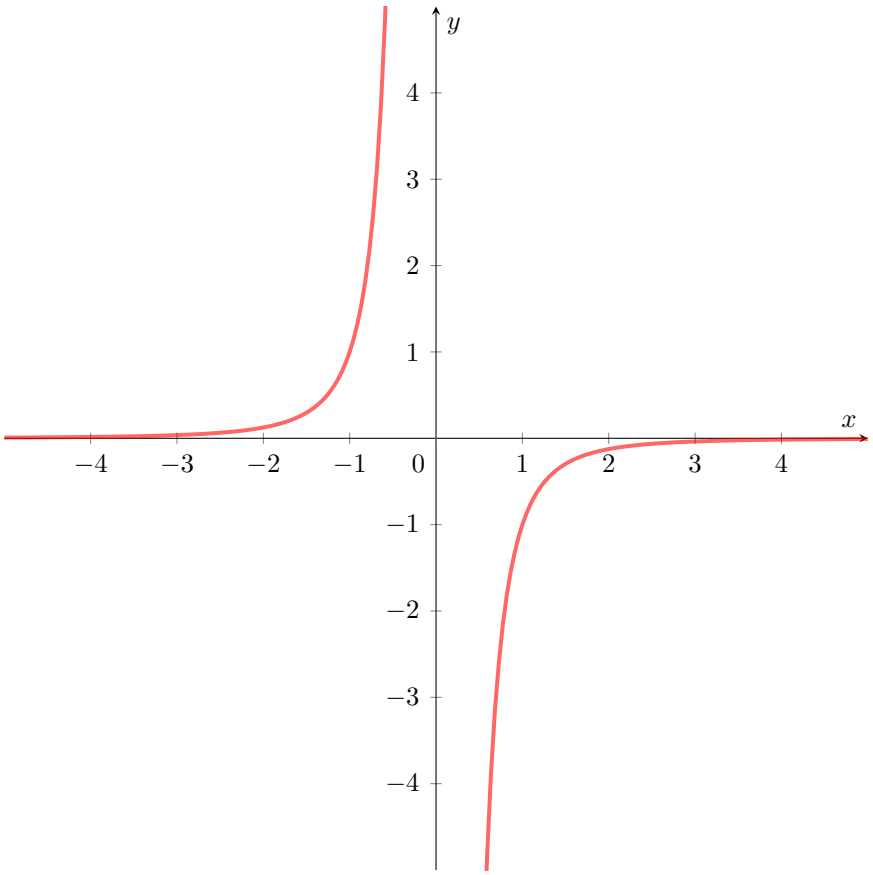
7) $y = -\frac{1}{4} - \frac{3}{2}x - 2x^2$



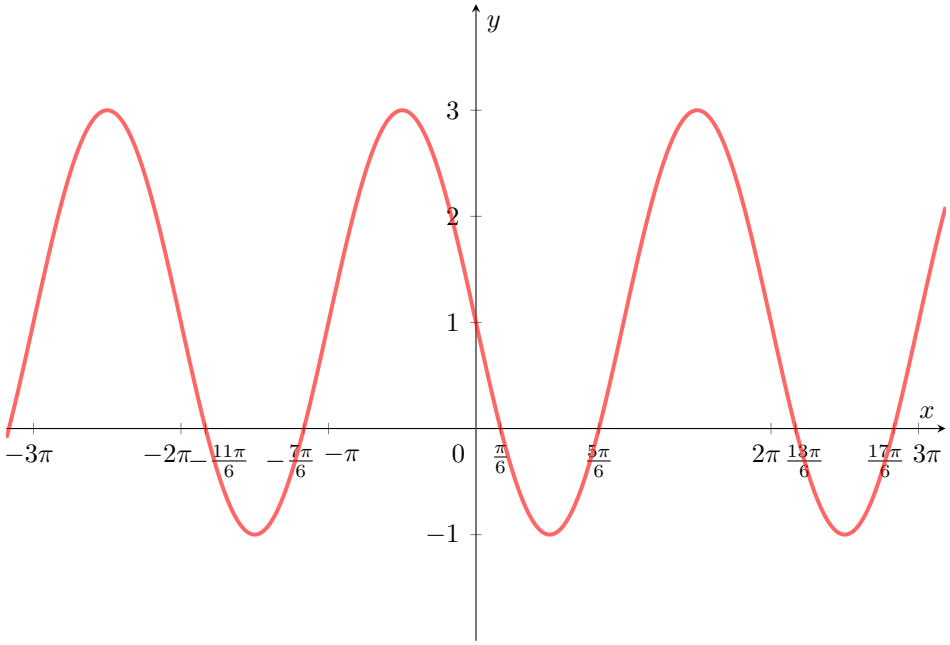
8) $y = \left(\frac{1}{4}\right)^{\frac{1}{2}+1}$



9) $y = -x^{-3}$



10) $y = 2\sin(-x) + 1$



Test 26

1) -16

2) $-\dfrac{1}{x}$, $x \neq 0$, $x \neq \pm 1$

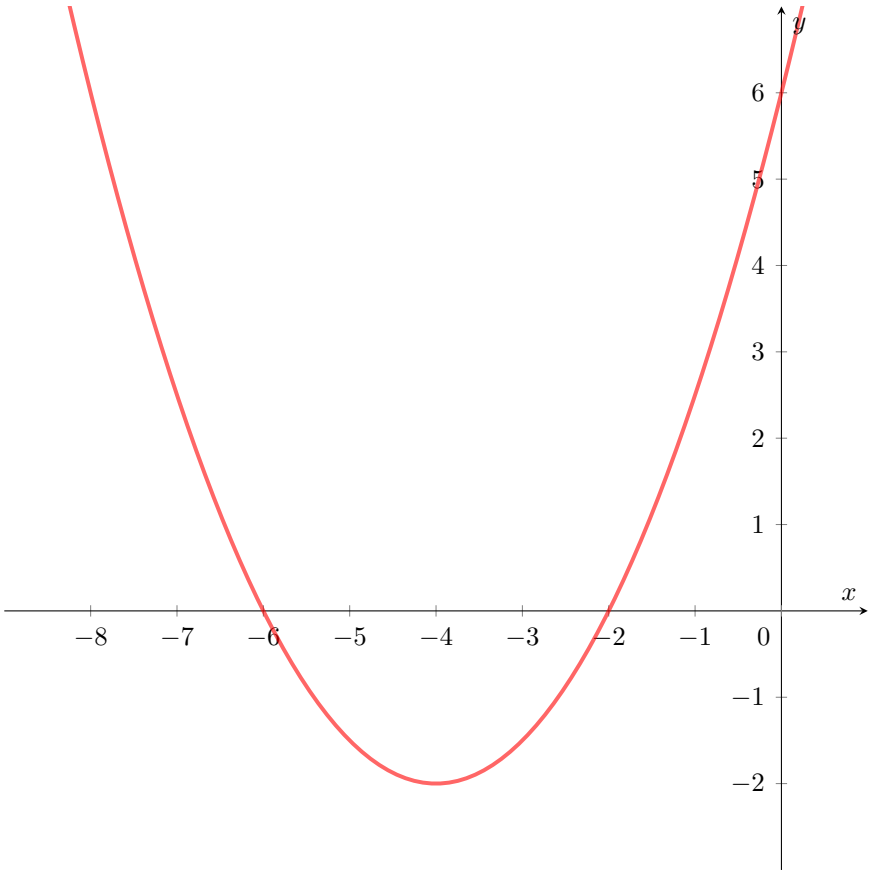
3) $\dfrac{2}{3}$

4) $x \in \left(-2, \frac{1}{4}\right)$

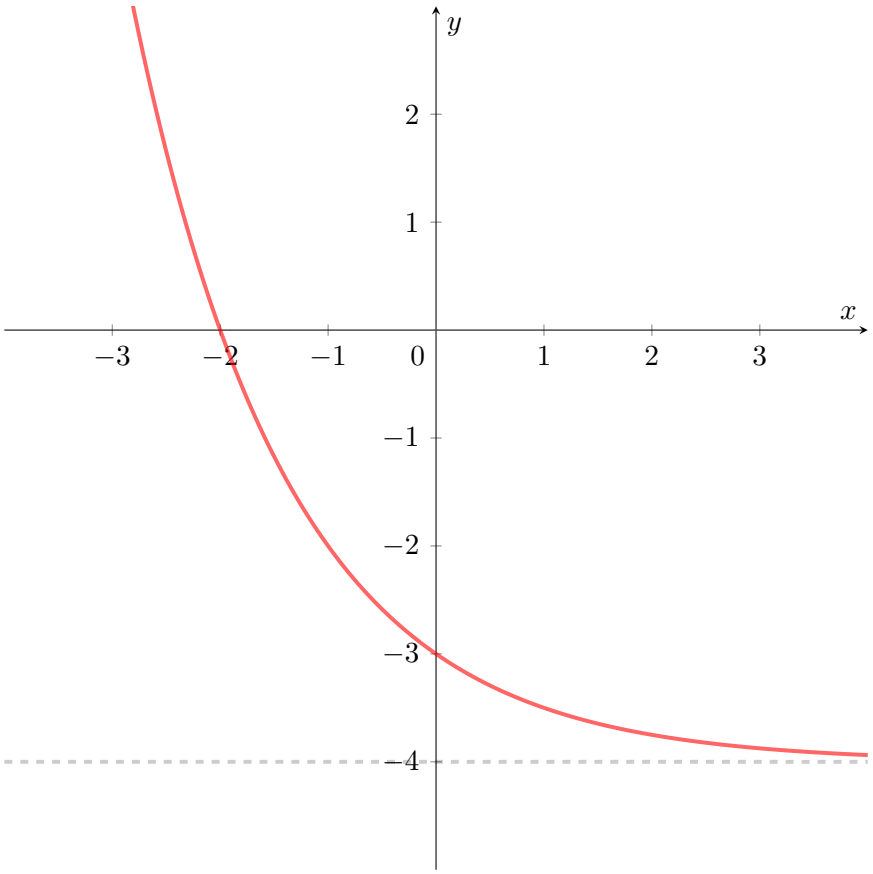
5) $x = 3$, $y = 1$

6) $\mathrm{D}_f = (5, \infty)$

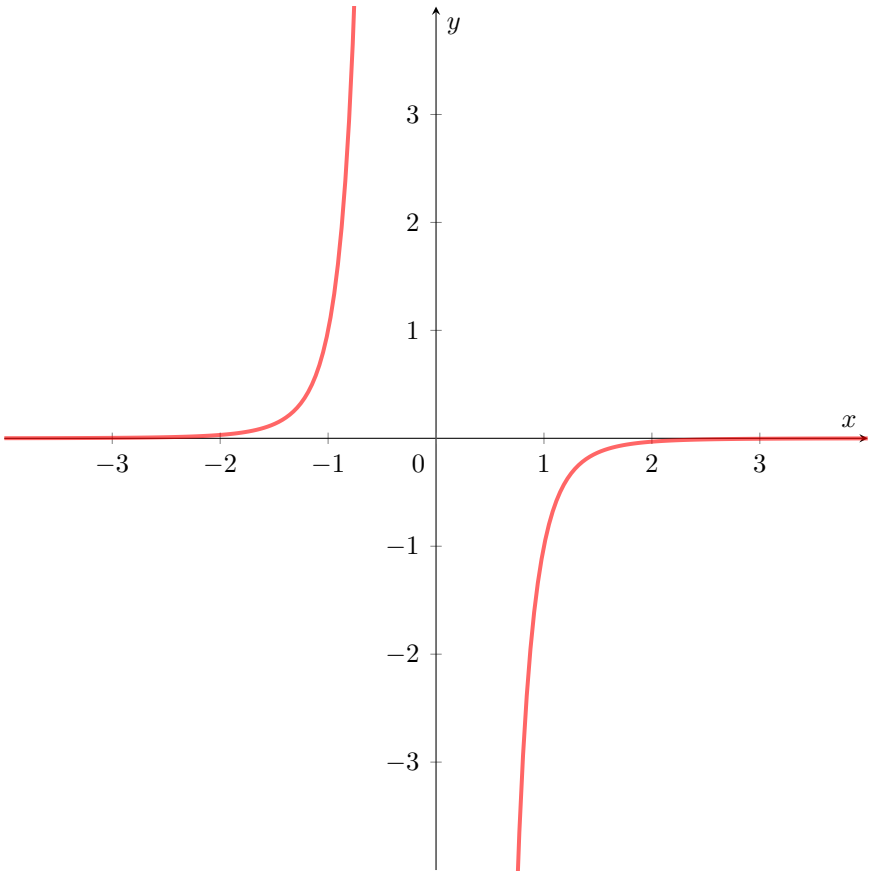
7) $y = 6 + 4x + \frac{1}{2}x^2$



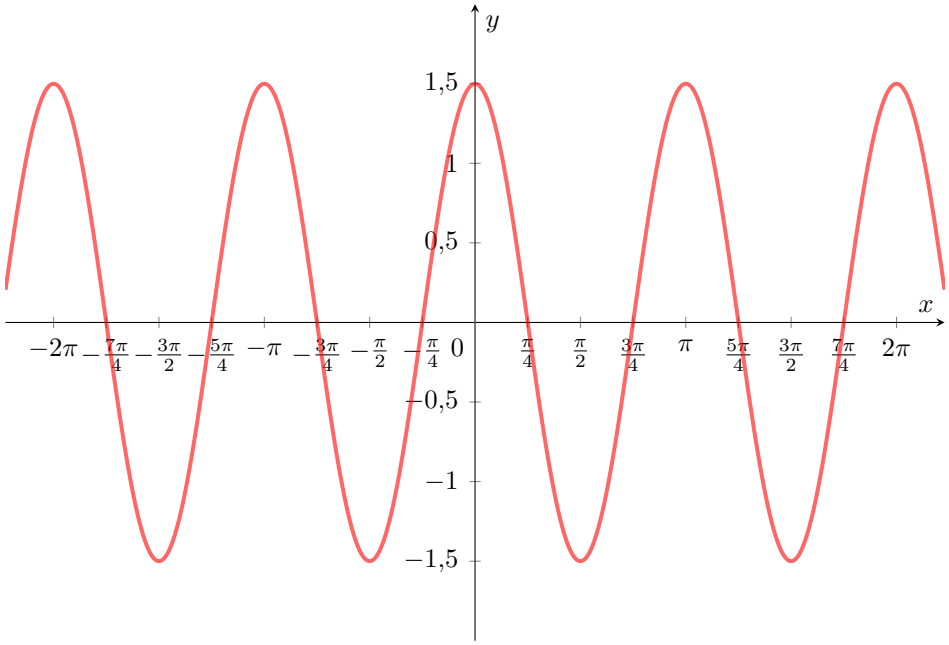
8) $y = \left(\frac{1}{2}\right)^x - 4$



9) $y = -x^{-5}$



10) $y = 1{,}5\cos 2x$


y
1,5
1
0,5
x
-2π $-\frac{7\pi}{4}$ $-\frac{3\pi}{2}$ $-\frac{5\pi}{4}$ $-\pi$ $-\frac{3\pi}{4}$ $-\frac{\pi}{2}$ $-\frac{\pi}{4}$ 0 $\frac{\pi}{4}$ $\frac{\pi}{2}$ $\frac{3\pi}{4}$ π $\frac{5\pi}{4}$ $\frac{3\pi}{2}$ $\frac{7\pi}{4}$ 2π
−0,5
−1
−1,5

Test 27

1) $\dfrac{4}{225}$

2) $\dfrac{1}{x}$, $x \neq 0$, $x \neq \pm 1$

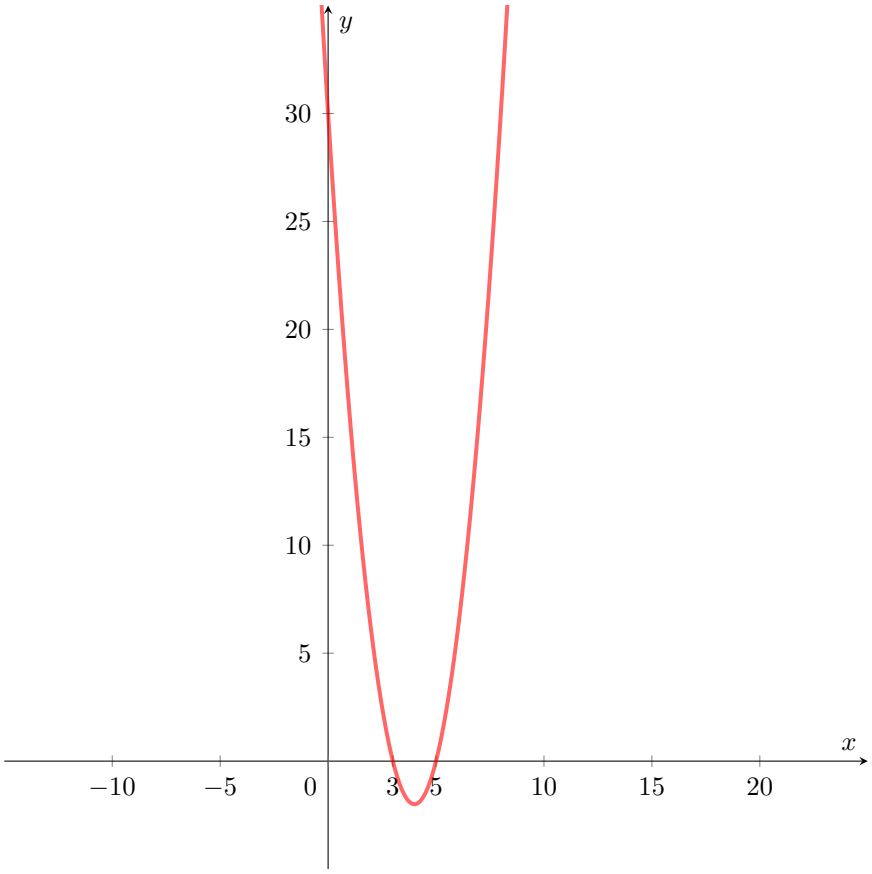
3) $x = \dfrac{7}{38}$

4) $x \in \left(-\infty, \frac{1}{3}\right) \cup \left(\frac{1}{2}, \infty\right)$

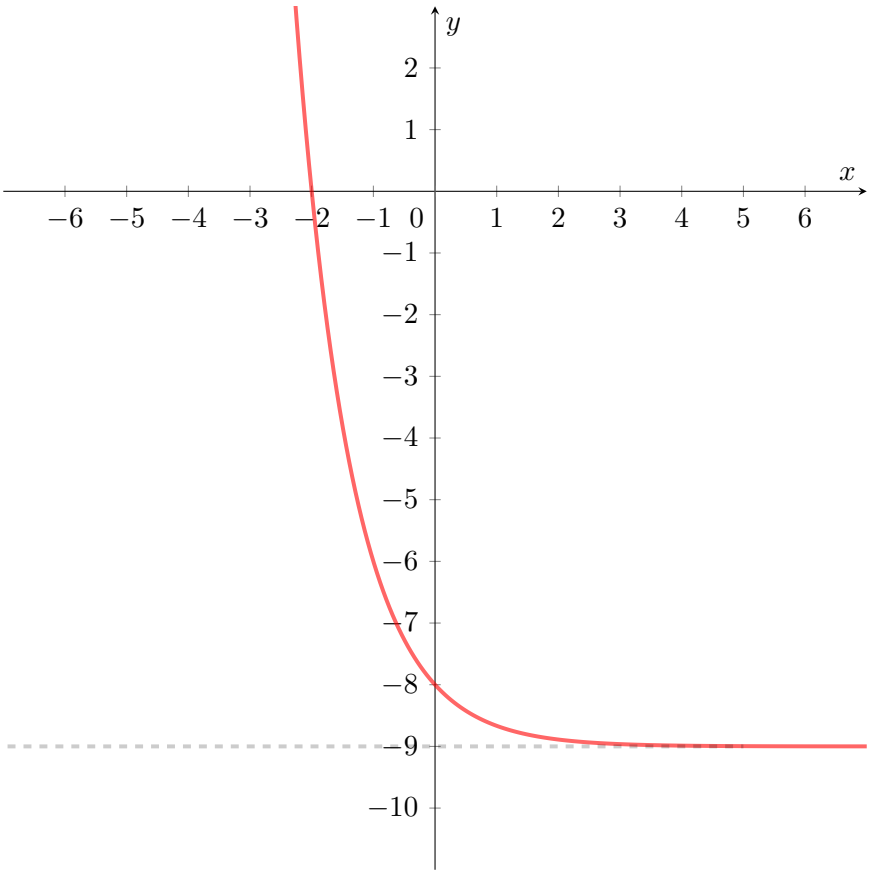
5) $x = 7$, $y = 5$

6) $\mathrm{D}_f = (-\infty, 0) \cup (3, \infty)$

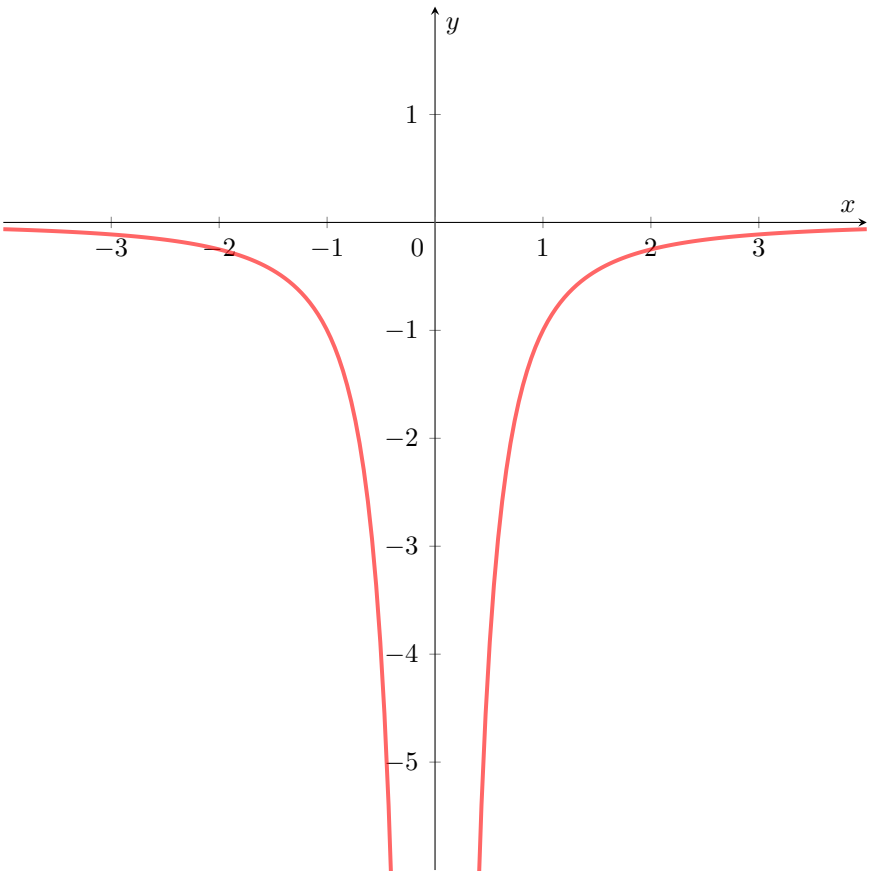
7) $y = 30 - 16x + 2x^2$



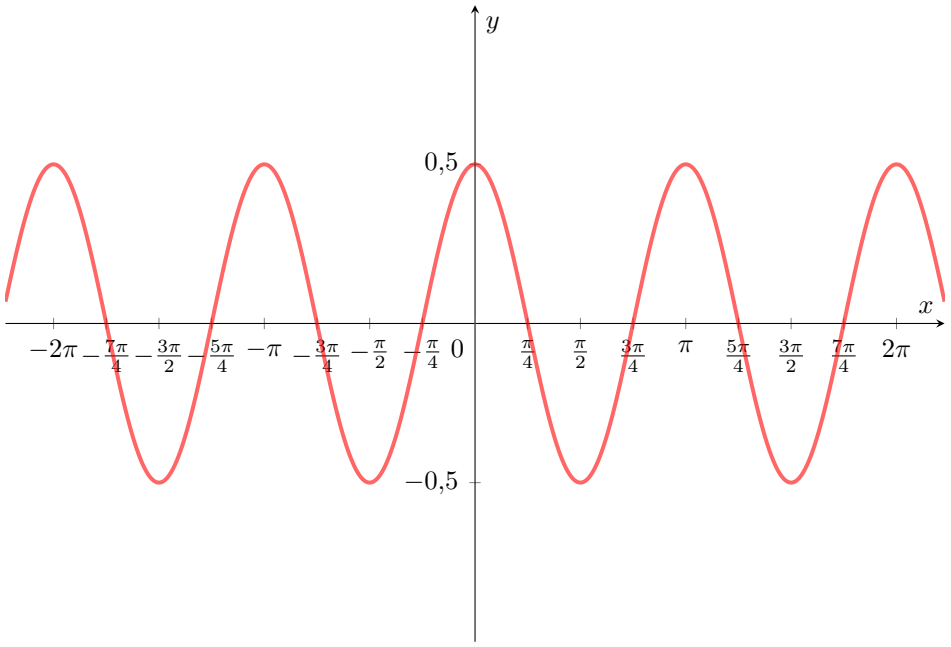
8) $y = \left(\frac{1}{3}\right)^x - 9$



9) $y = -x^{-2}$



10) $y = \frac{1}{2}\cos 2x$



Test 28

1) $\dfrac{9}{4}$

2) $3,\ x \neq 0,\ x \neq \pm 1$

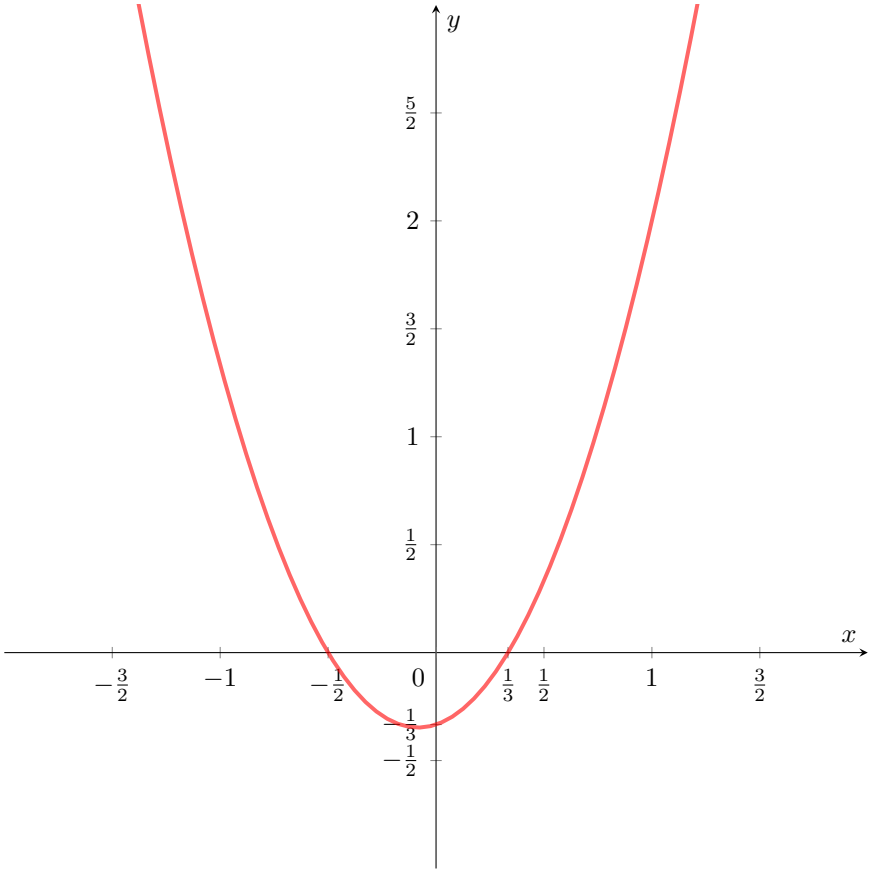
3) $x = \dfrac{15}{2}$

4) $x \in \left(-\infty, -\frac{2}{5}\right) \cup \left(-\frac{1}{4}, \infty\right)$

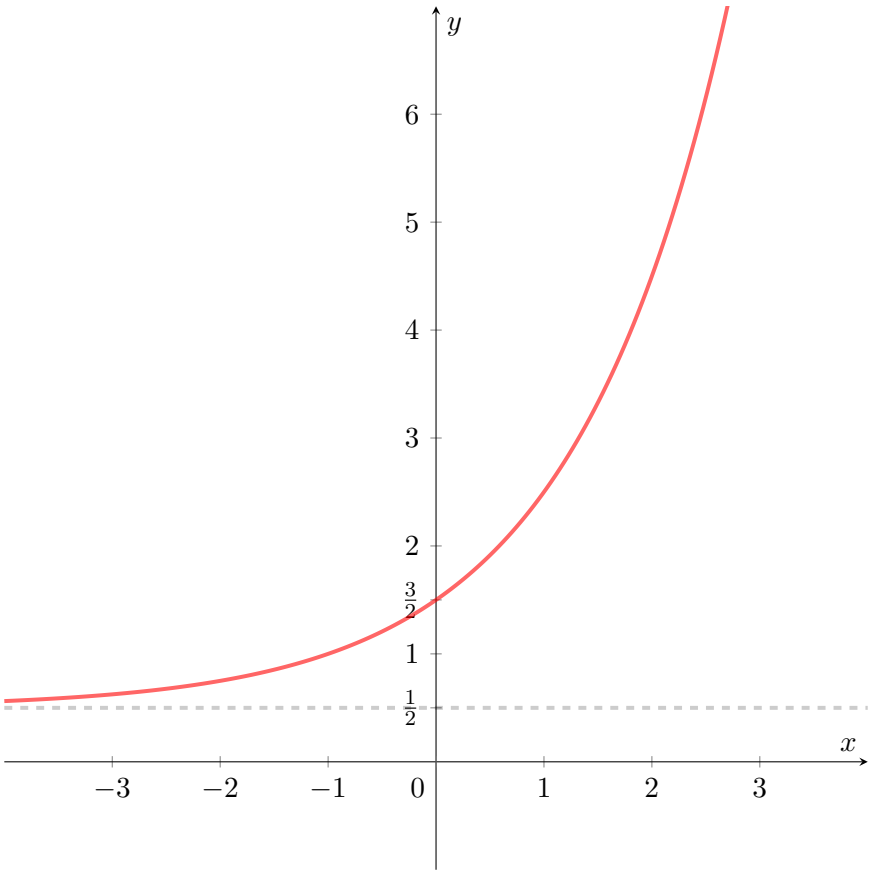
5) $x = -\dfrac{1}{13},\ y = -\dfrac{19}{13}$

6) $\mathrm{D}_f = \left(-\infty, \frac{5}{3}\right)$

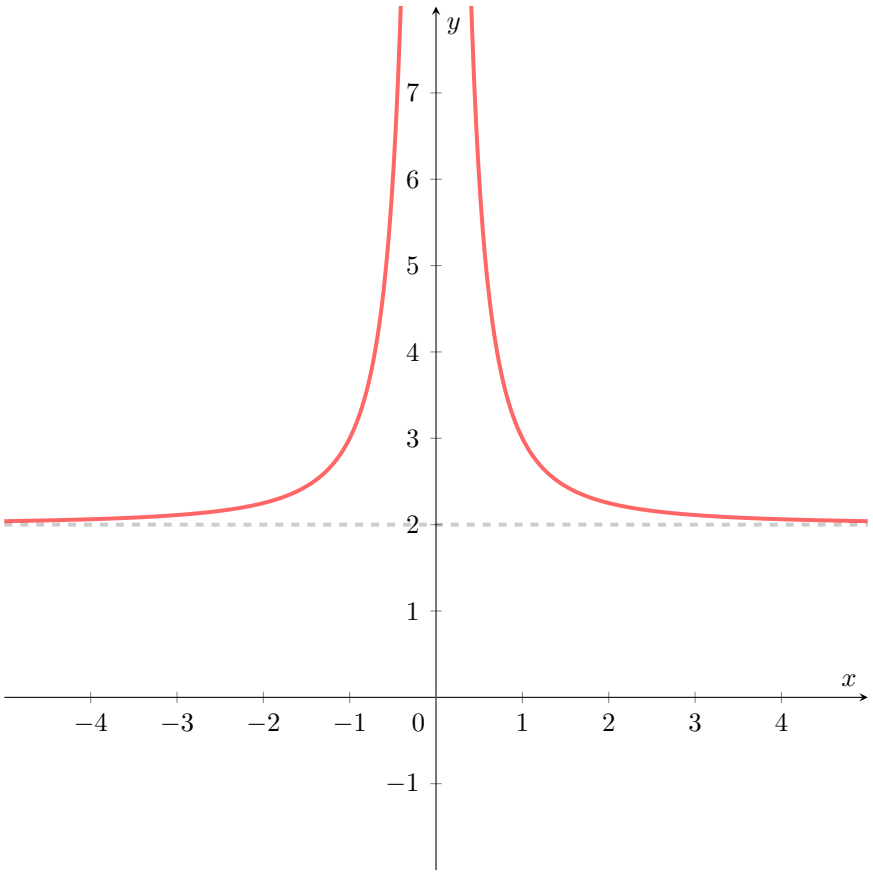
7) $y = -\frac{1}{3} + \frac{1}{3}x + 2x^2$



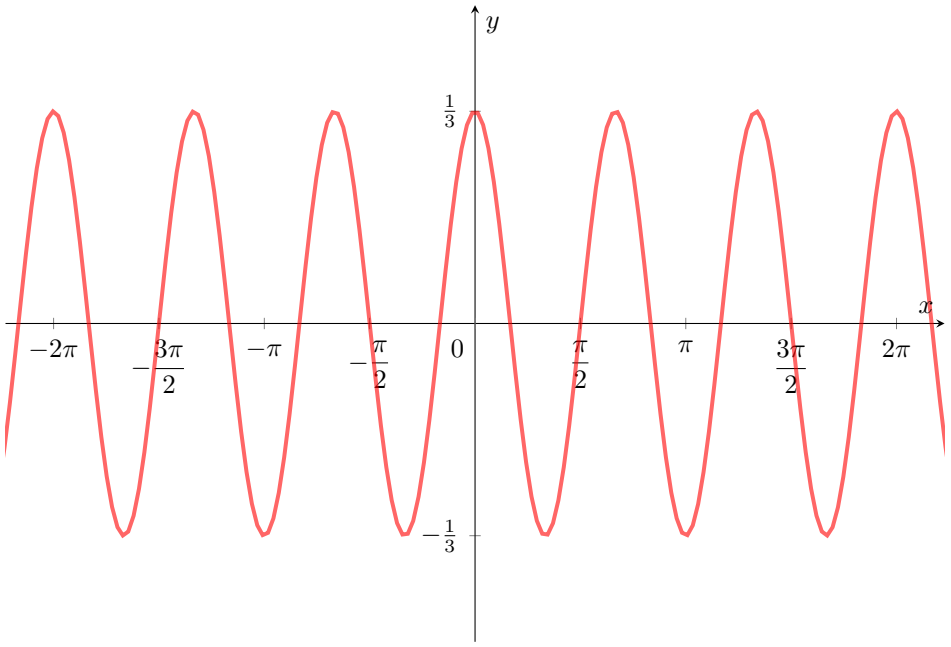
8) $y = \left(\frac{1}{2}\right)^{-x} + \frac{1}{2}$



9) $y = x^{-2} + 2$



10) $y = \frac{1}{3}\cos 3x$



Test 29

1) $\dfrac{4}{3}$

2) $\dfrac{x\left(2x^2+x+4\right)}{(x+2)^2}$, $x \neq -1$, $x \neq -2$

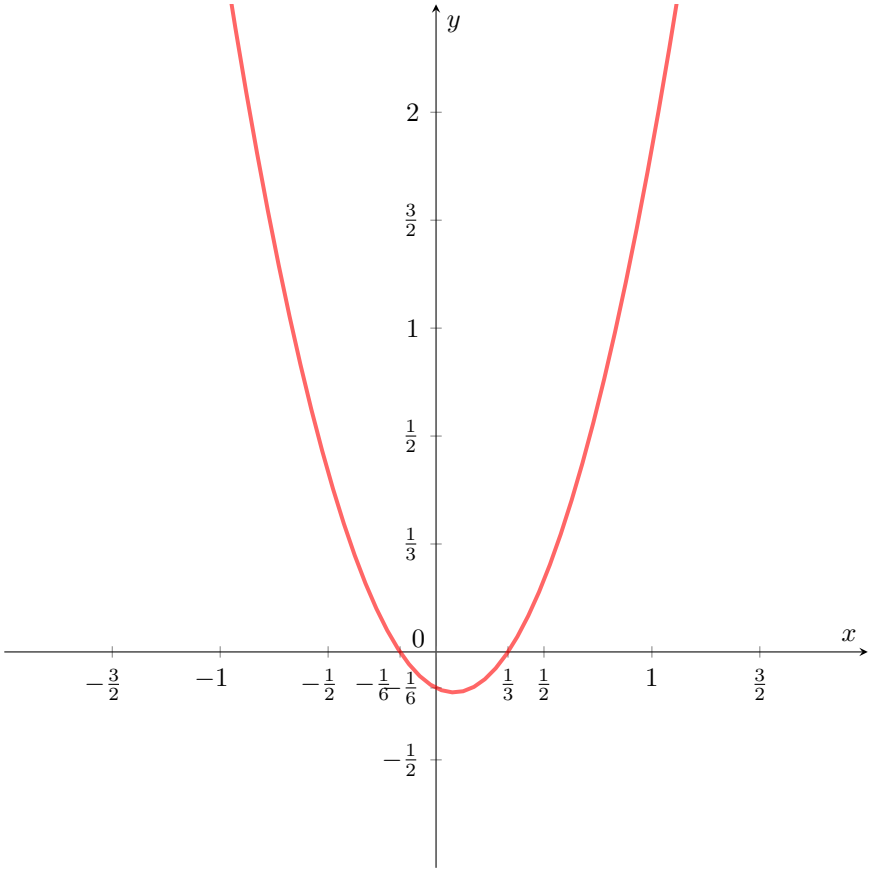
3) $x = 3$

4) $x \in \left(\frac{3}{2}, \frac{7}{4}\right)$

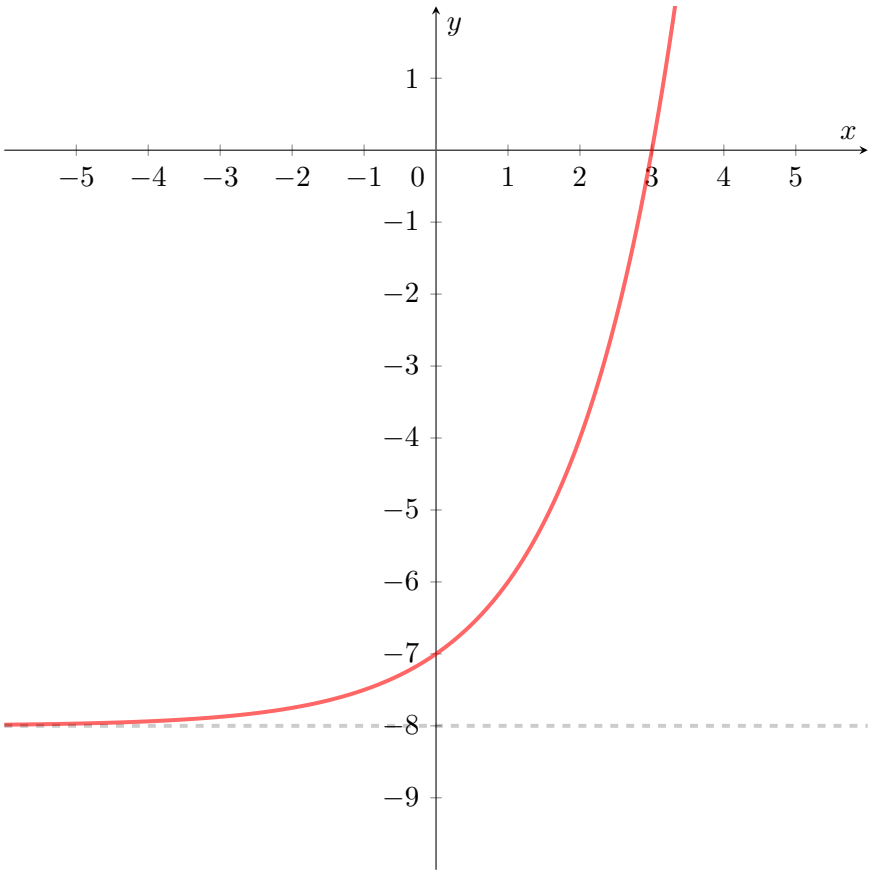
5) $x = -\dfrac{19}{10}$, $y = -\dfrac{9}{2}$

6) $\mathrm{D}_f = (-\infty, 0) \cup \left(\frac{1}{2}, \infty\right)$

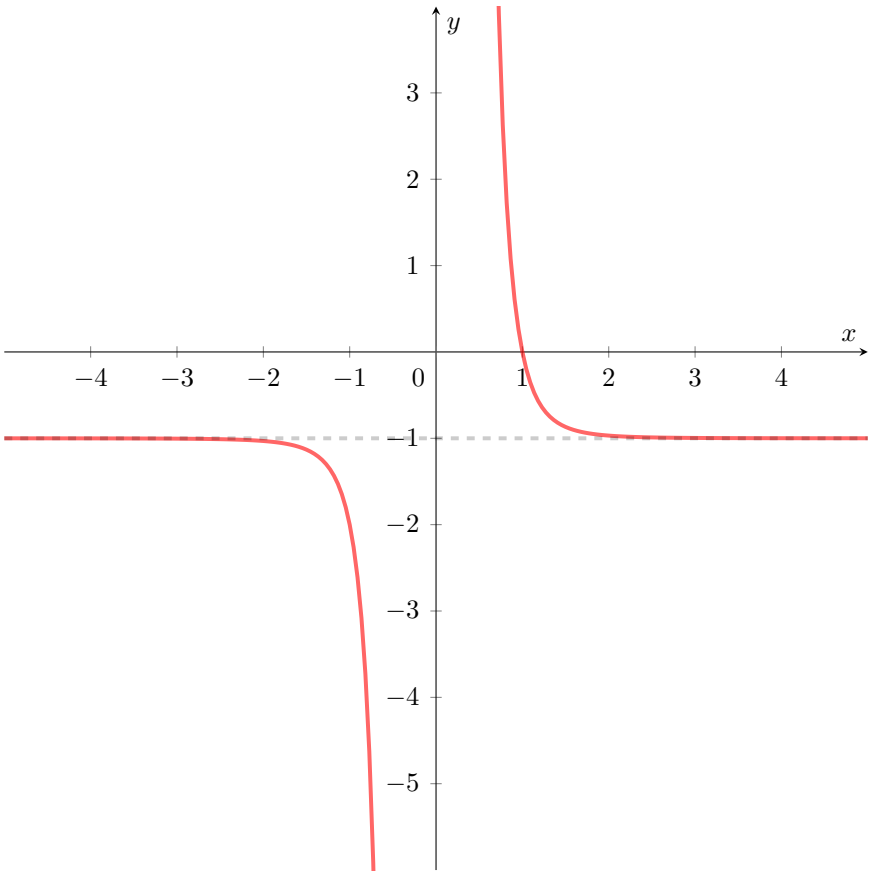
7) $y = -\frac{1}{6} - \frac{1}{2}x + 3x^2$



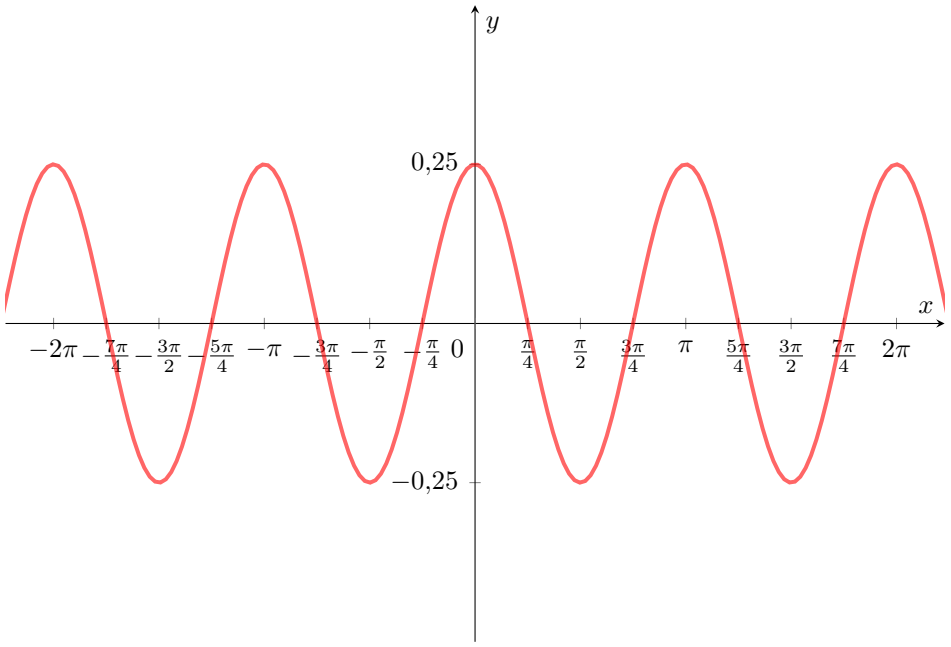
8) $y = \left(\frac{1}{2}\right)^{-x} - 8$



9) $y = x^{-5} - 1$



10) $y = \frac{1}{4}\cos 2x$



Test 30

1) $\frac{16}{3}$

2) $\frac{1}{x}$, $x \neq 0$, $x \neq 1$

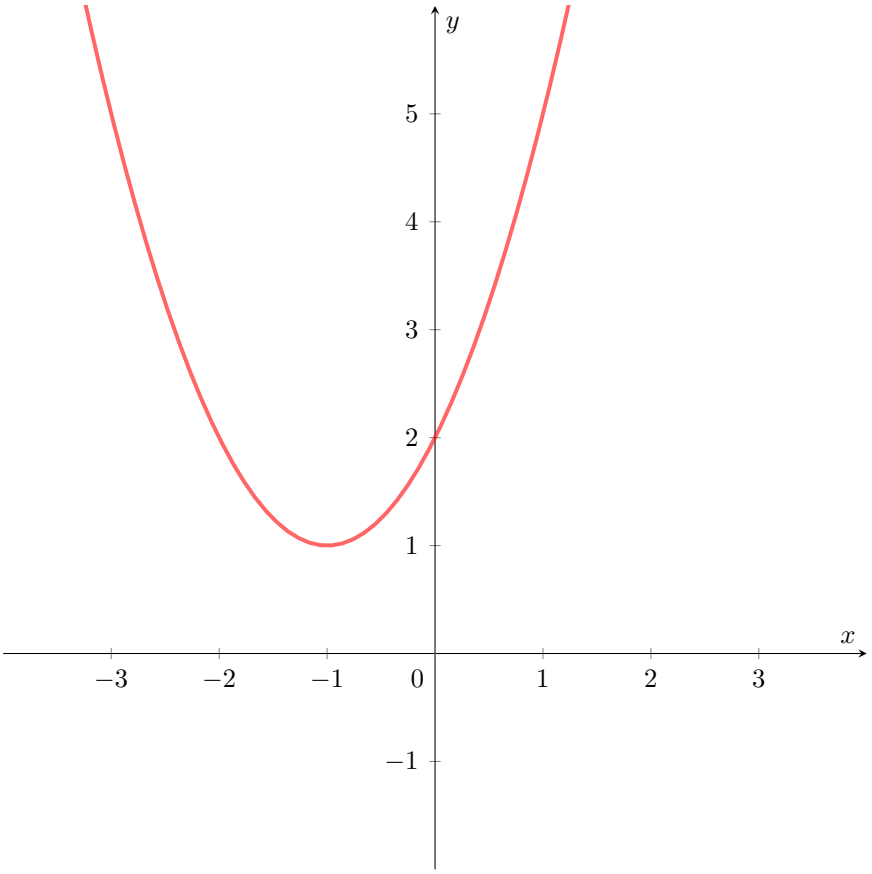
3) $x = -\frac{3}{11}$

4) $x \in \left(-\infty, \frac{3}{2}\right) \cup \left(\frac{5}{2}, \infty\right)$

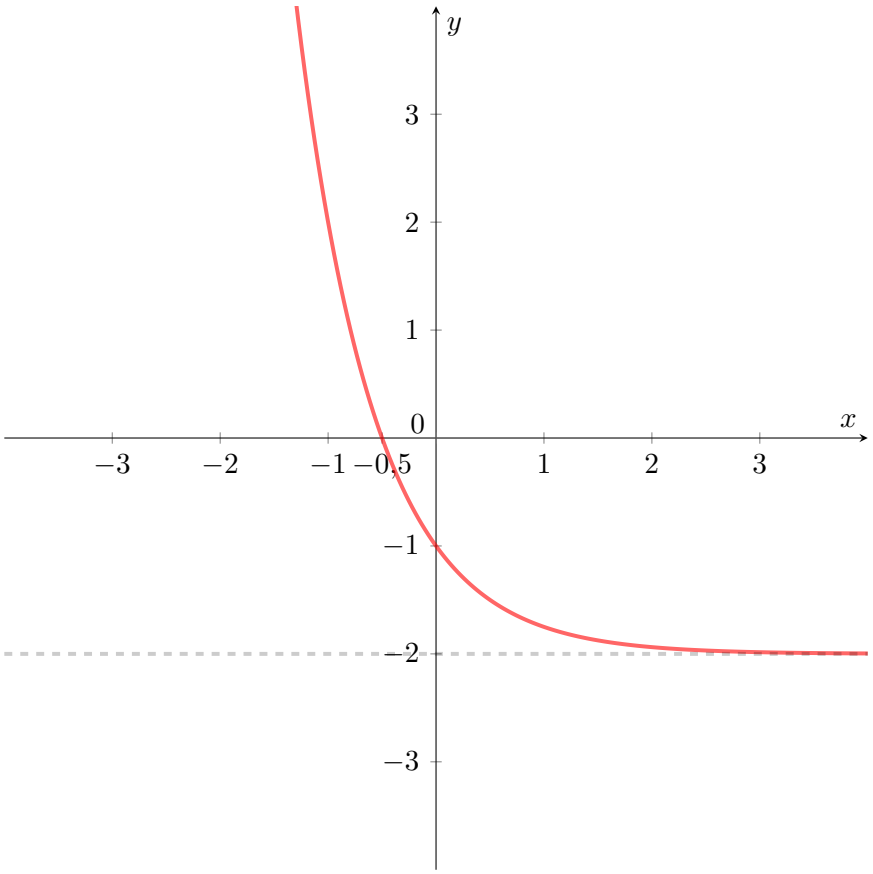
5) $x = \frac{40}{73}$, $y = -\frac{88}{73}$

6) $\mathrm{D}_f = (2, -1\rangle$

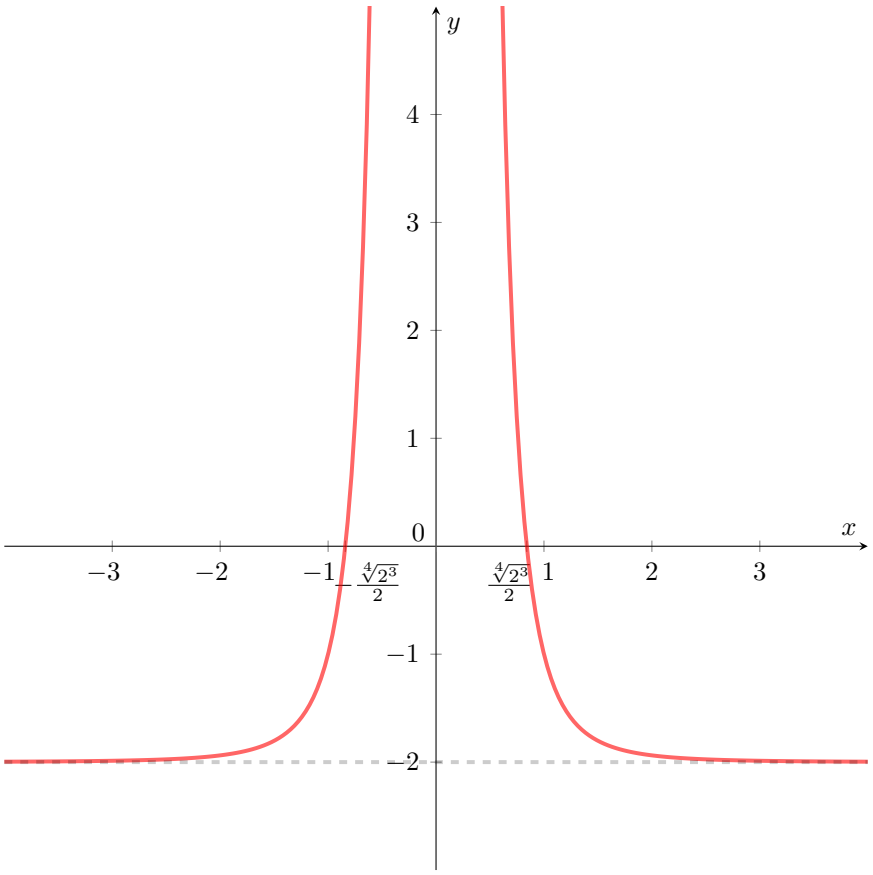
7) $y = 2 + 2x + x^2$



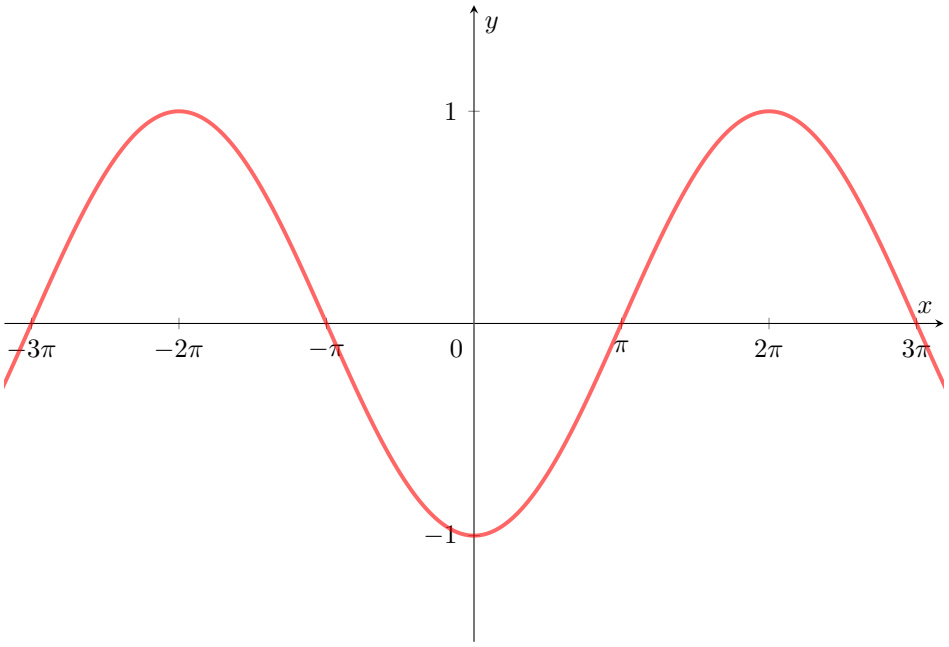
8) $y = \left(\frac{1}{4}\right)^x - 2$



9) $y = x^{-4} - 2$



10) $y = -\cos\frac{x}{2}$



Test 31

1) $\dfrac{1}{24}$

2) $-\dfrac{3}{2x}$, $x \neq 0$, $x \neq \pm 3$

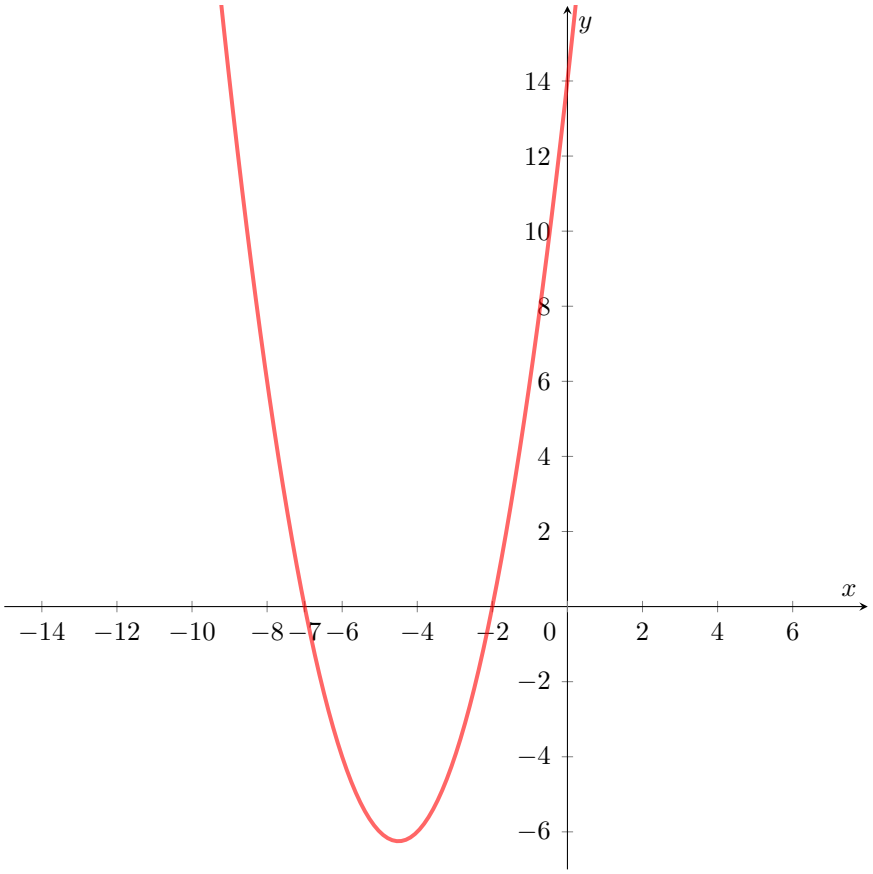
3) $x = -\dfrac{66}{125}$

4) $x \in \left(-\infty, -\frac{4}{3}\right\rangle \cup (-1, \infty)$

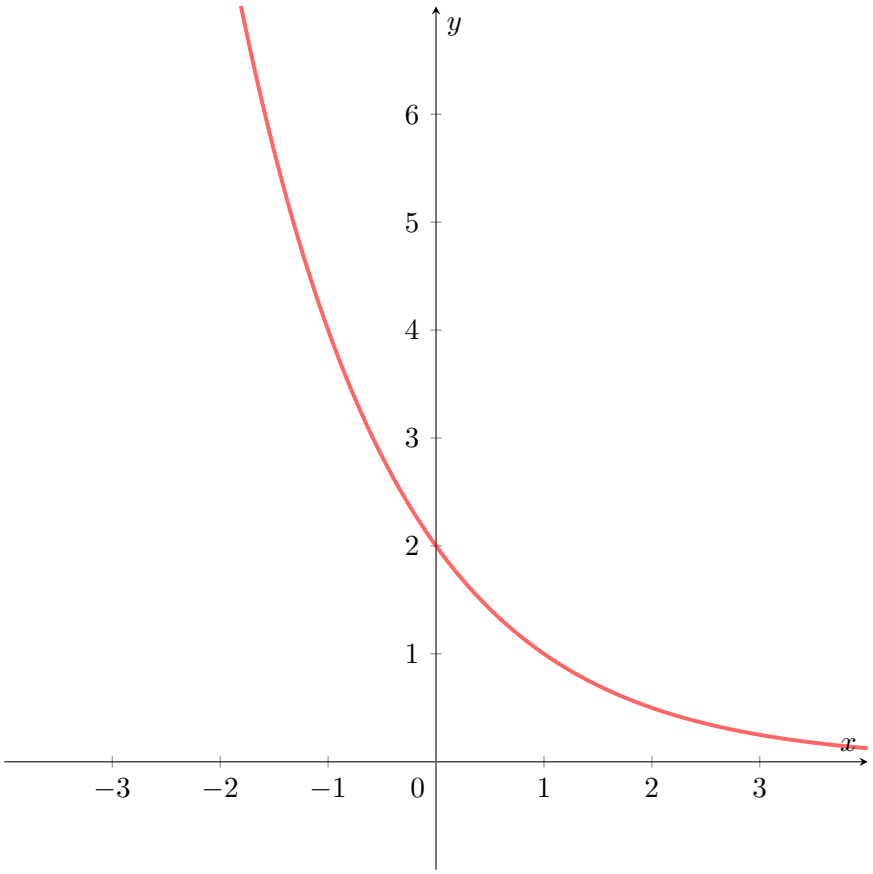
5) $x = \dfrac{10}{7}$, $y = \dfrac{12}{7}$

6) $\mathrm{D}_f = \langle -4, 4 \rangle$

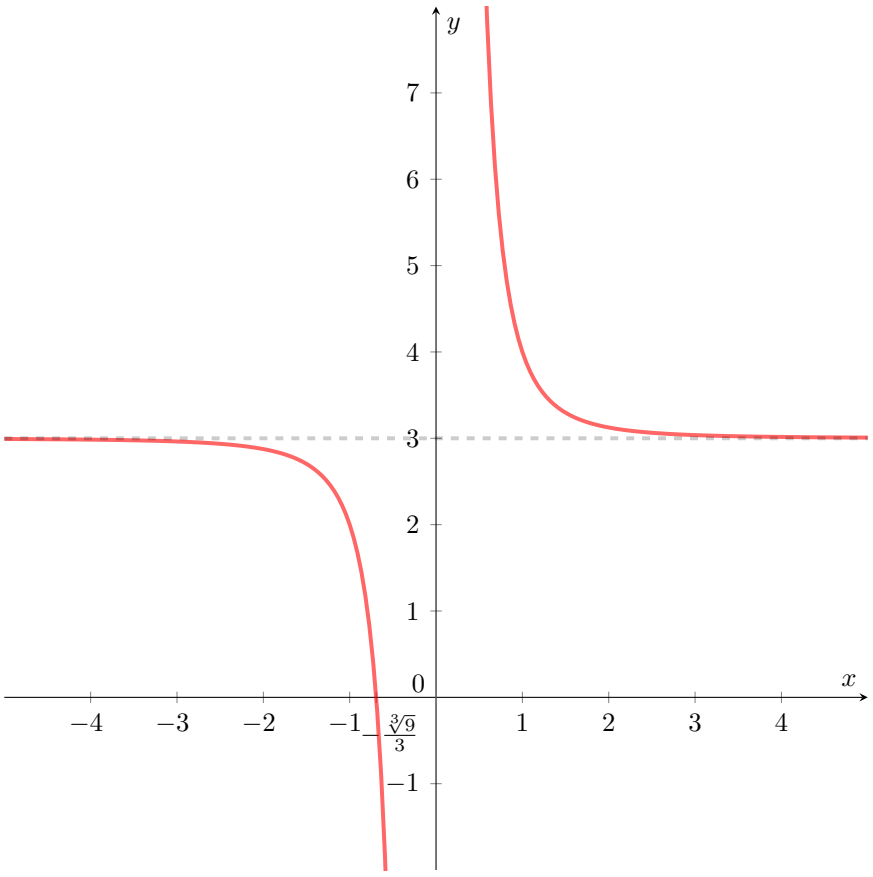
7) $y = x^2 + 9x + 14$



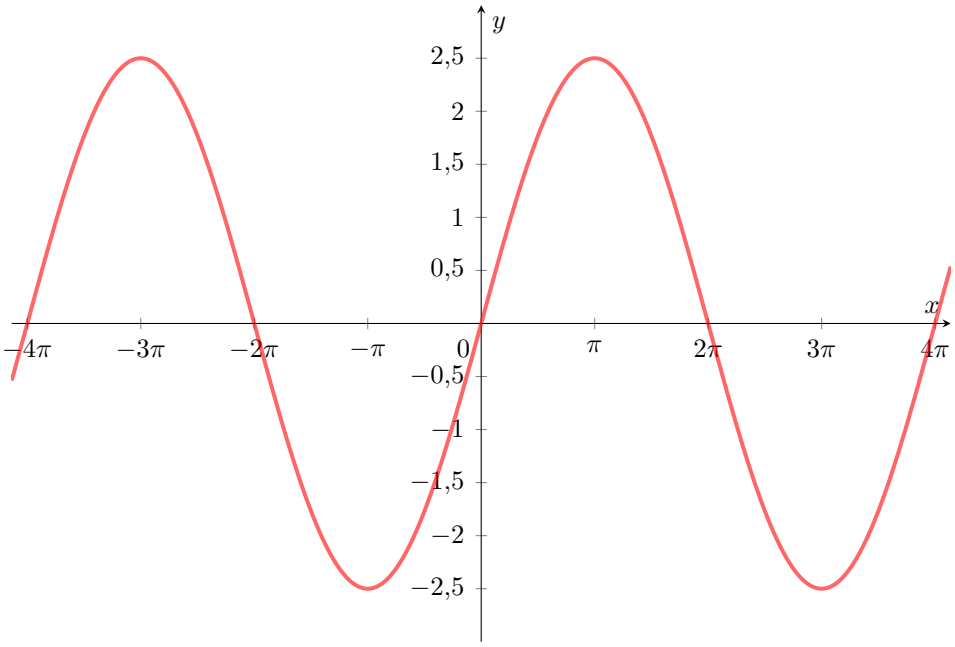
8) $y = 2 \cdot \left(\frac{1}{2}\right)^x$



9) $y = x^{-3} + 3$



10) $y = 2{,}5 \sin \frac{1}{2}x$



Test 32

1) $\dfrac{1}{36}$

2) $0,\ x \neq \pm 2$

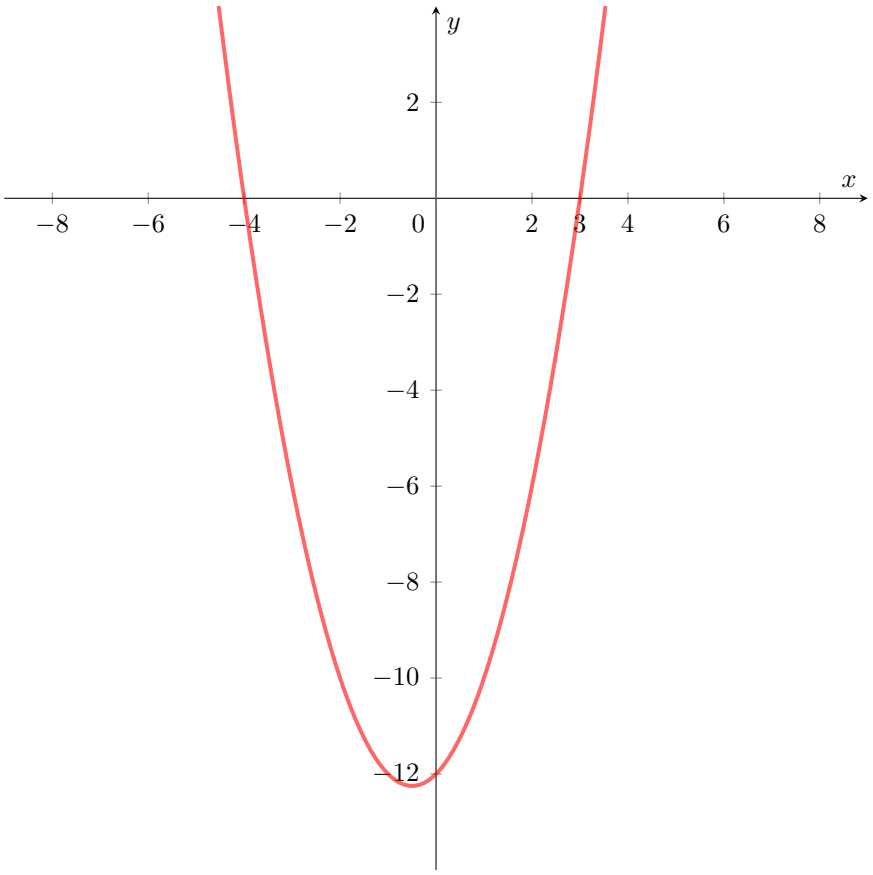
3) $x = \dfrac{67}{33}$

4) $x \in (2, 4\rangle$

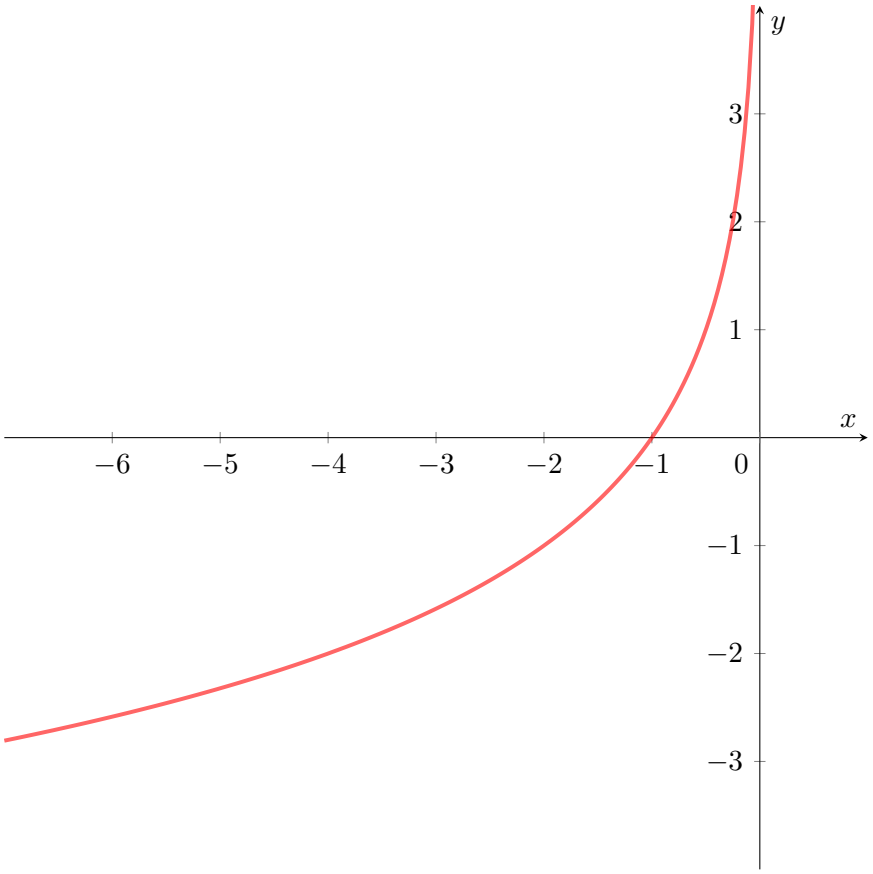
5) $x = t,\ y = \dfrac{3t - 11}{5},\ t \in \mathbb{R}$

6) $\mathrm{D}_f = (-\infty, -3\rangle \cup \langle -2, \infty)$

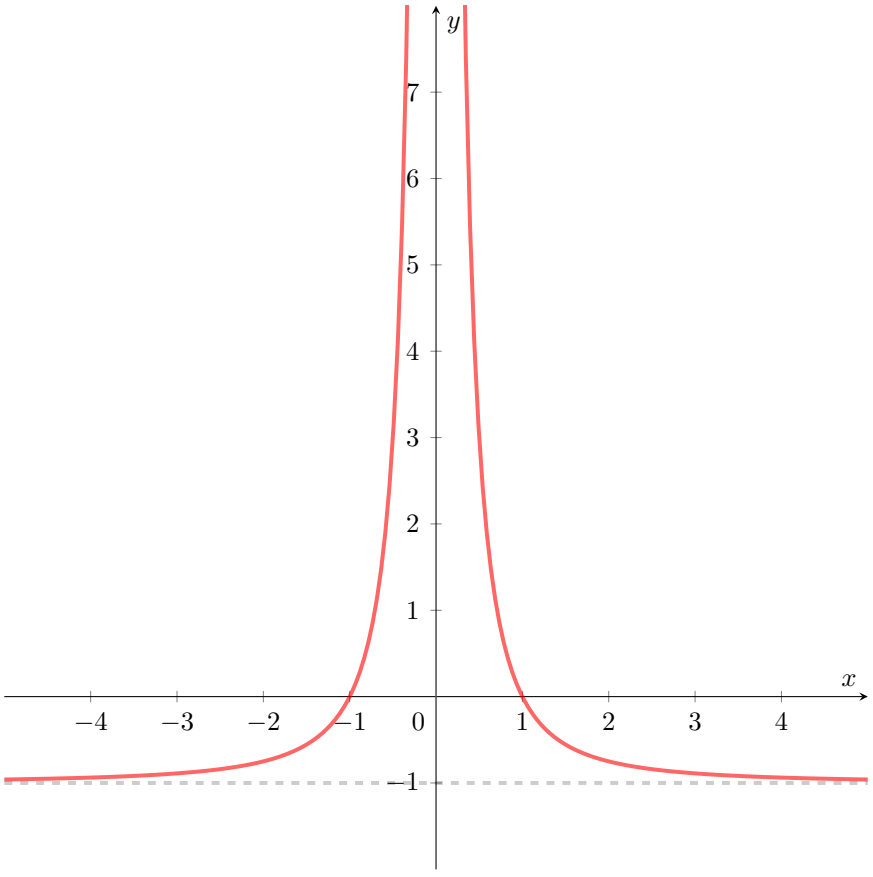
7) $y = x^2 + x - 12$



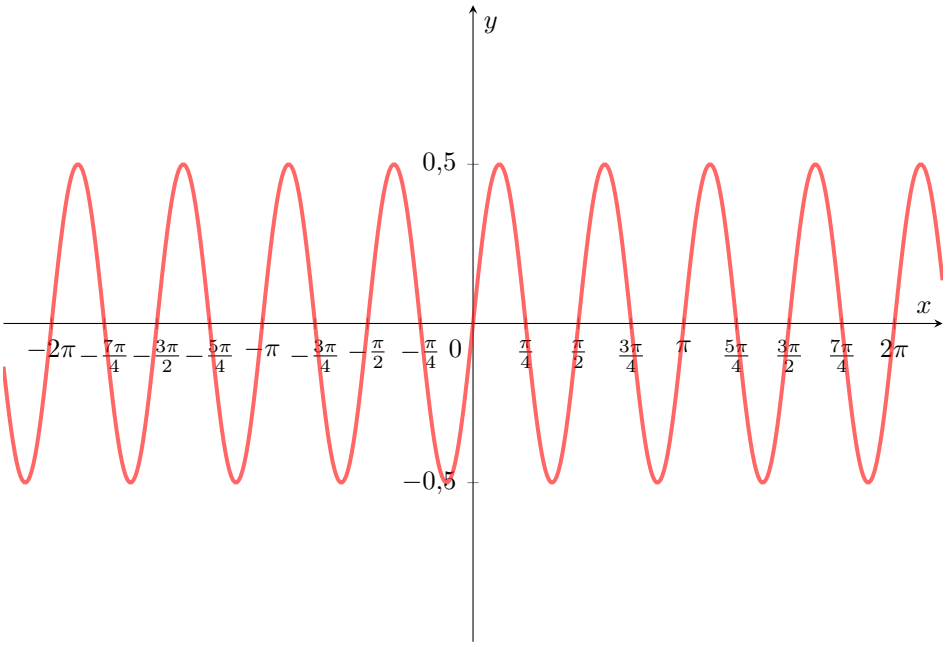
8) $y = -\log_2(-x)$



9) $y = x^{-2} - 1$



10) $y = \frac{1}{2}\sin 4x$



Test 33

1) $-\dfrac{1}{x}$, $x \neq 0$, $x \neq \pm 2$

2) $\dfrac{2}{x^2-1}$, $x \neq 0$, $x \neq \pm 1$

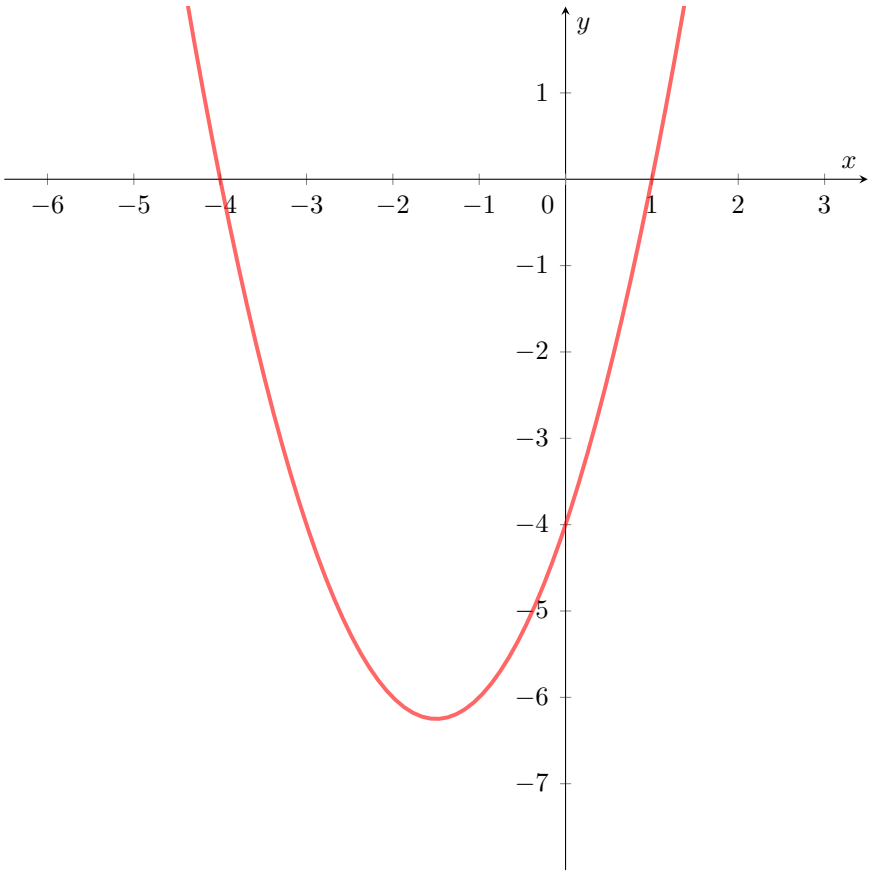
3) $x = \dfrac{6}{17}$

4) $x \in \left(-\infty, \frac{6}{8}\right) \cup \left(\frac{7}{8}, \infty\right)$

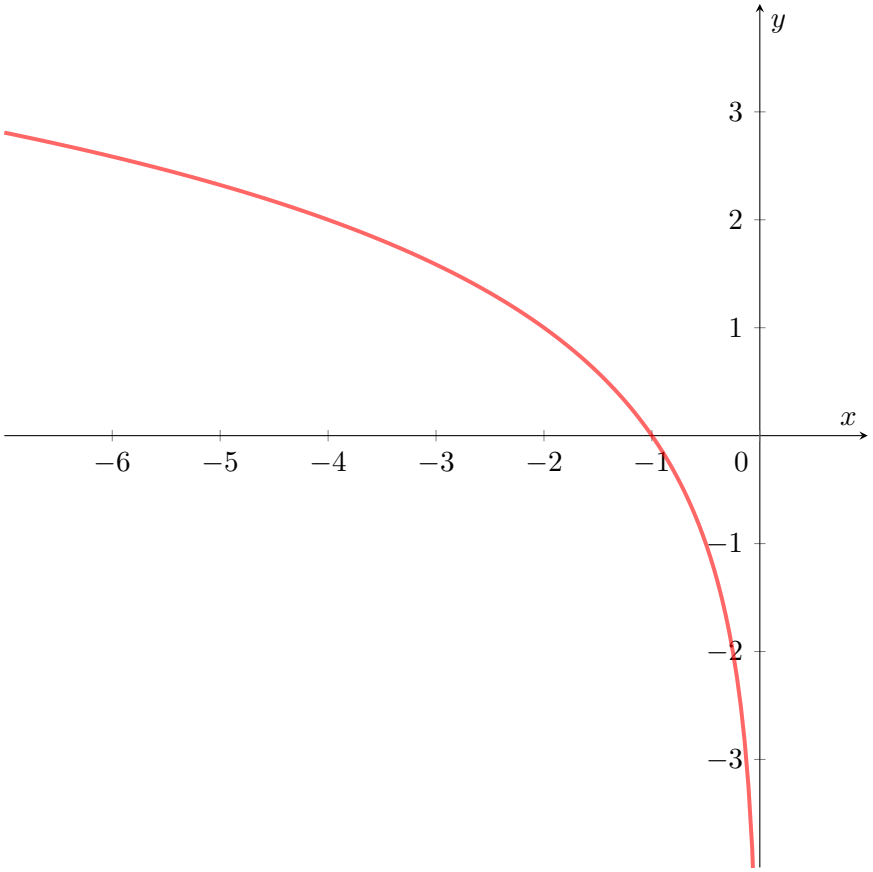
5) $x = -\dfrac{3}{5}$, $y = \dfrac{17}{10}$

6) $\mathrm{D}_f = \mathbb{R}$

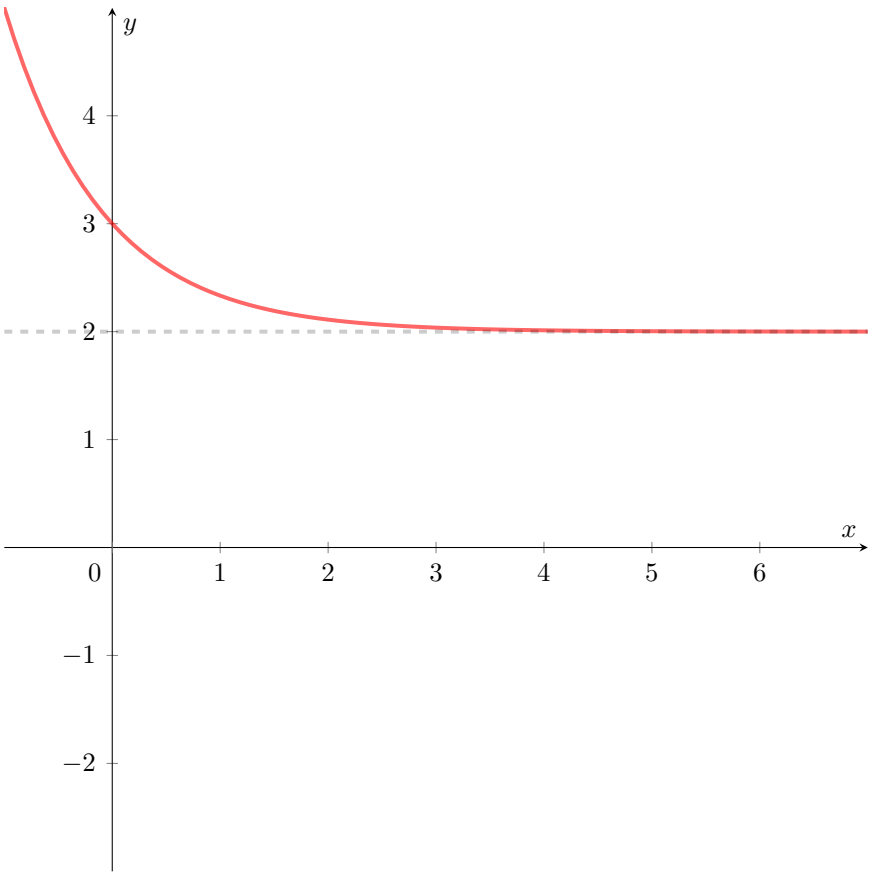
7) $y = x^2 + 3x - 4$



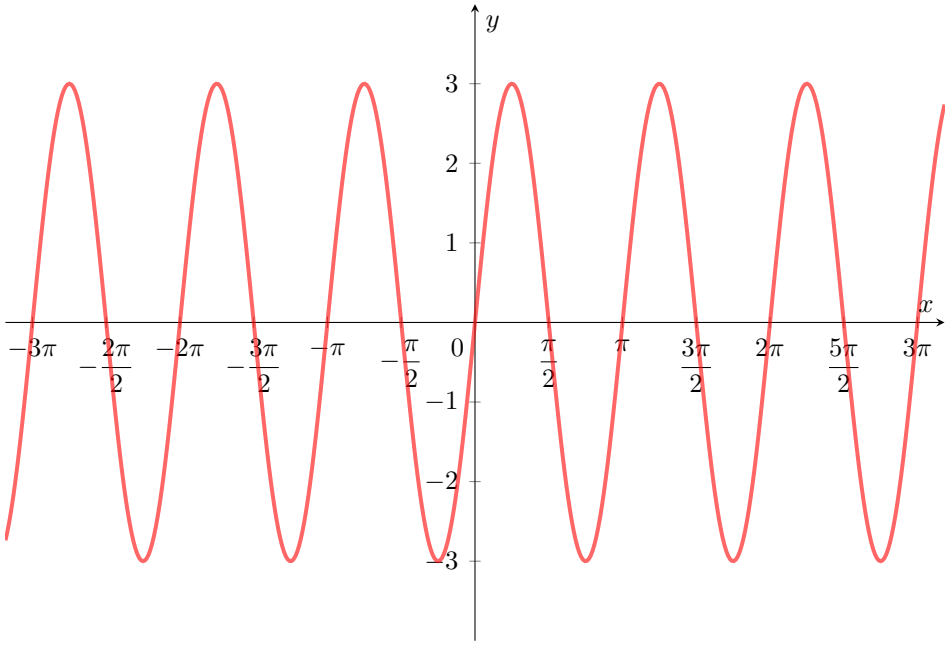
8) $y = \log_2(-x)$



9) $y = 3^{-x} + 2$



10) $y = 3\sin 2x$



Test 34

1) $\dfrac{729}{82}$

2) $\dfrac{2\,(2x-1)}{x\,(2x+1)},\ x \neq 0,\ x \neq \pm\dfrac{1}{2}$

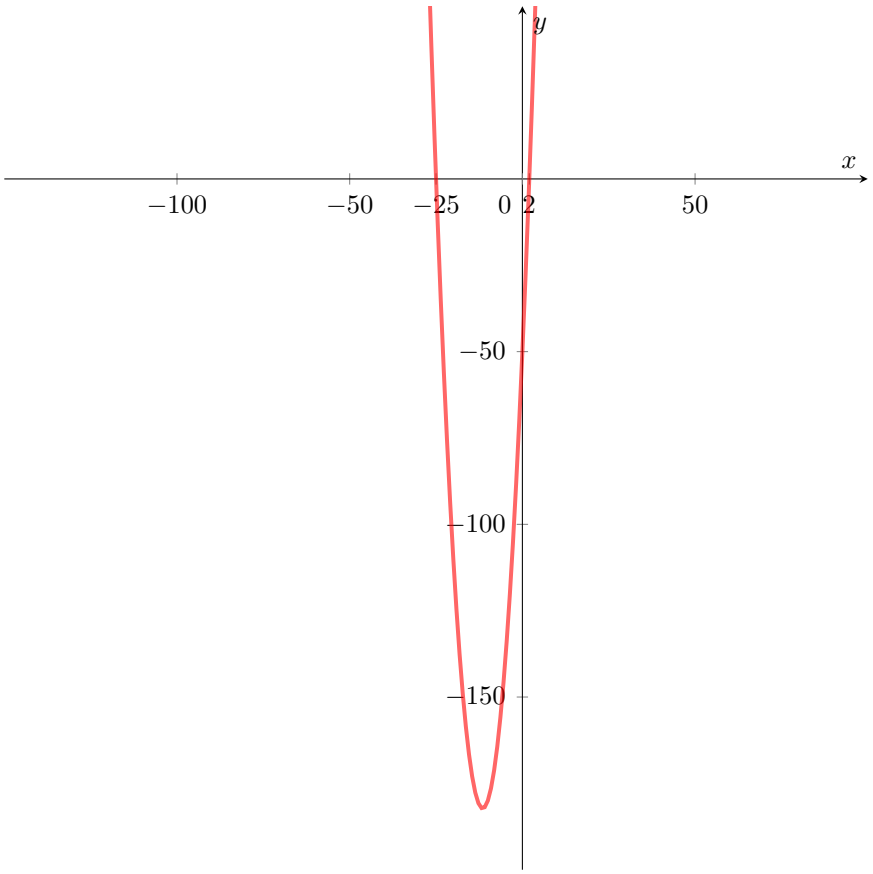
3) $x = \dfrac{19}{3}$

4) $x \in \left(-\frac{1}{2}, \frac{1}{2}\right)$

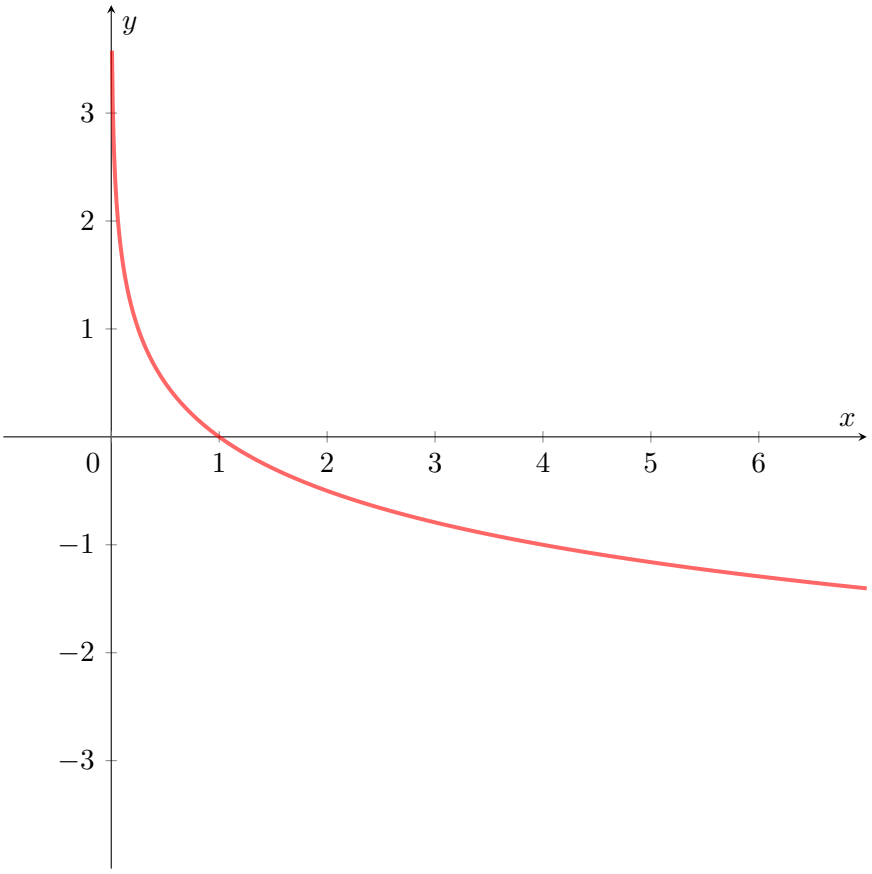
5) $x = \dfrac{12}{41},\ y = \dfrac{15}{41}$

6) $\mathrm{D}_f = (-\infty, -1) \cup (4, \infty)$

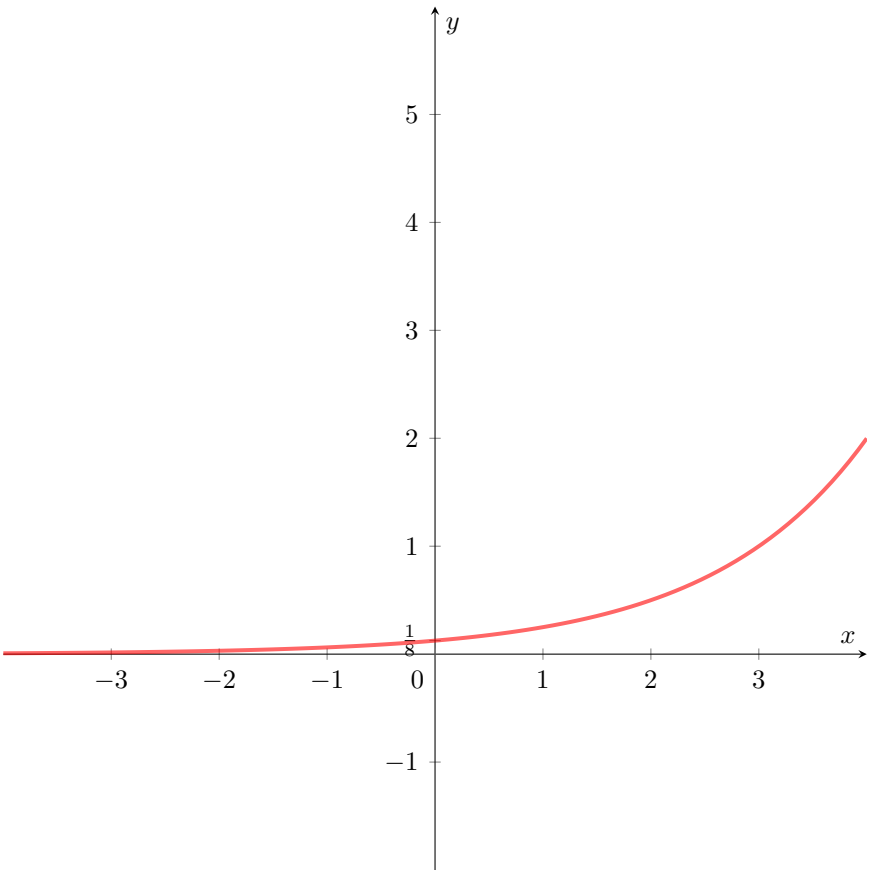
7) $y = x^2 + 23x - 50$



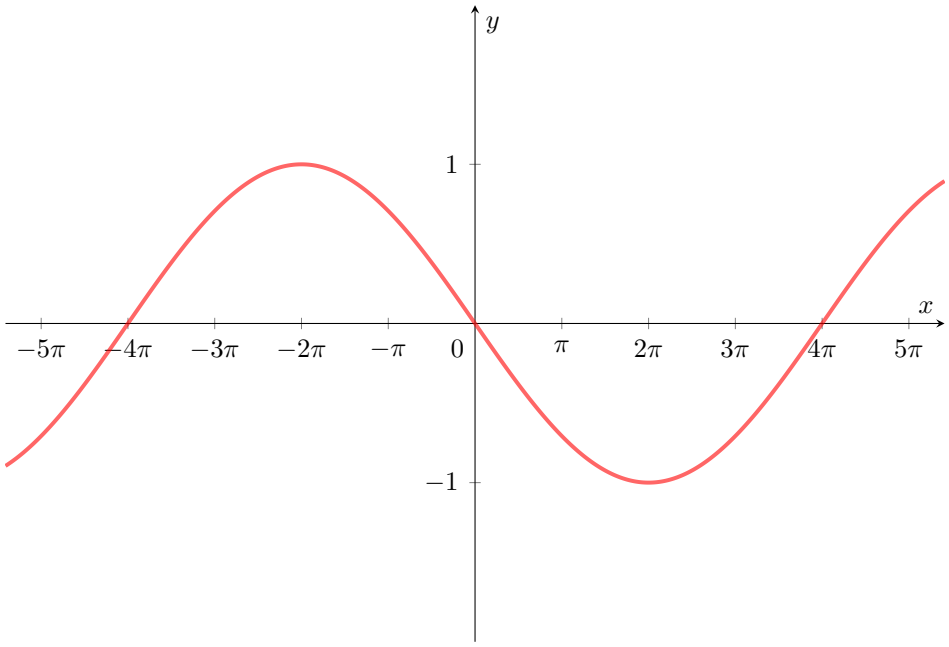
8) $y = -\log_4 x$



9) $y = \frac{1}{8} \cdot 2^x$



10) $y = -\sin \frac{1}{4}x$



Test 35

1) $\dfrac{16}{3}$

2) $\left(\dfrac{x-1}{x+1}\right)^2$, $x \neq -1$, $x \neq \pm 2$

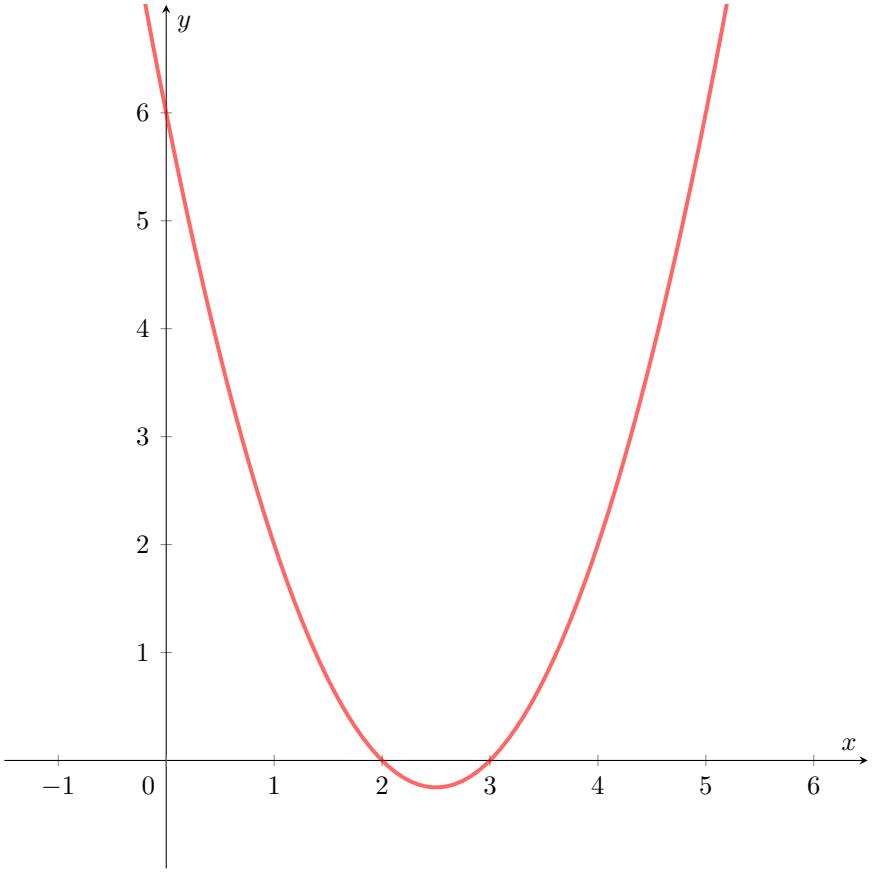
3) $x = -\dfrac{115}{6}$

4) $x \in \left(\frac{4}{3}, \frac{13}{6}\right\rangle$

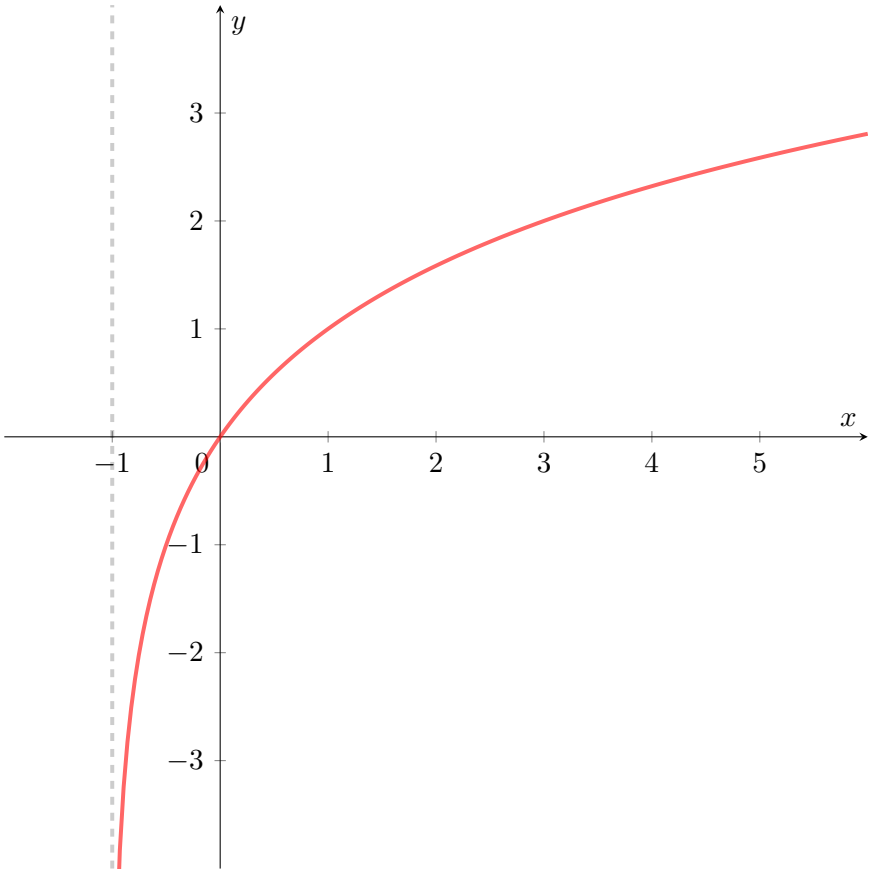
5) $x = \dfrac{40}{33}$, $y = \dfrac{212}{33}$

6) $\mathrm{D}_f = \left\langle -\frac{1}{4}, 2\right\rangle$

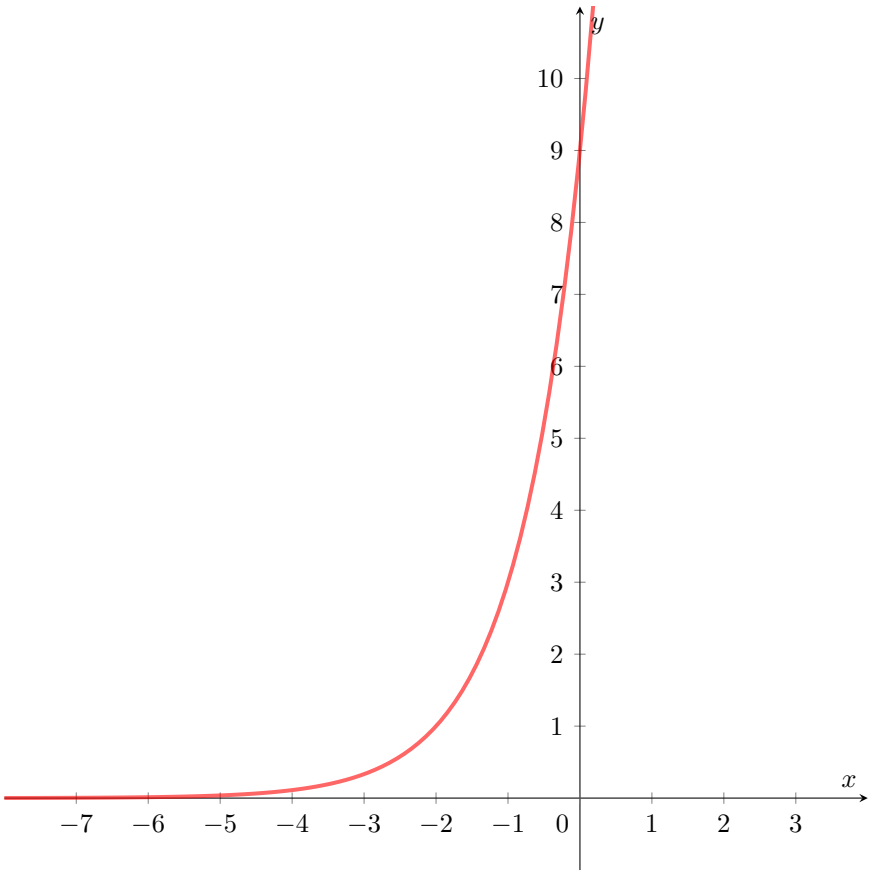
7) $y = x^2 - 5x + 6$



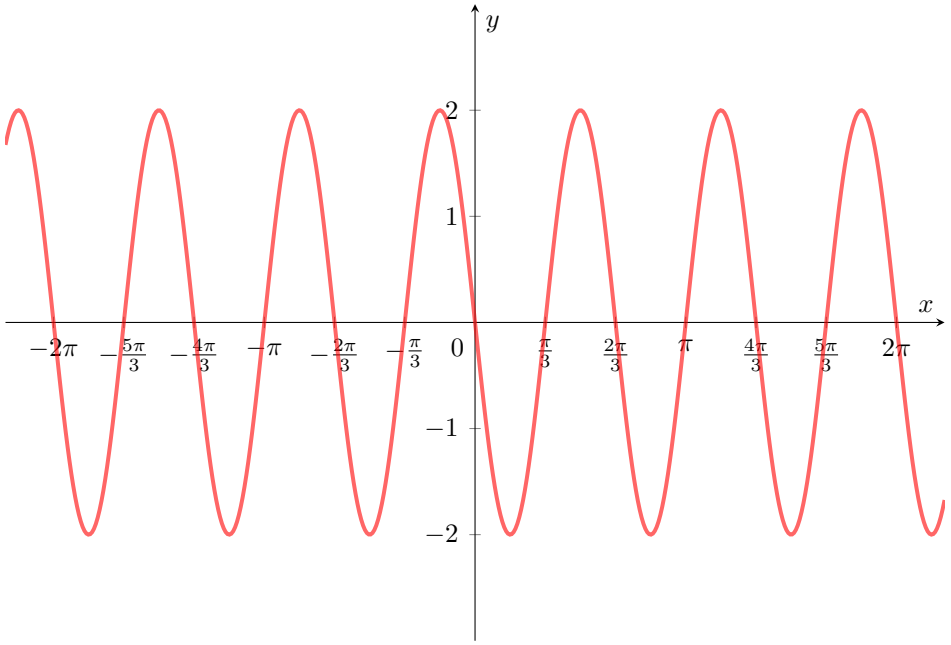
8) $y = \log_2(x+1)$



9) $y = 9 \cdot \left(\frac{1}{3}\right)^{-x}$



10) $y = -2\sin 3x$



Test 36

1) $\dfrac{1}{28}$

2) $\dfrac{x}{x+2}$, $x \neq \pm 2$

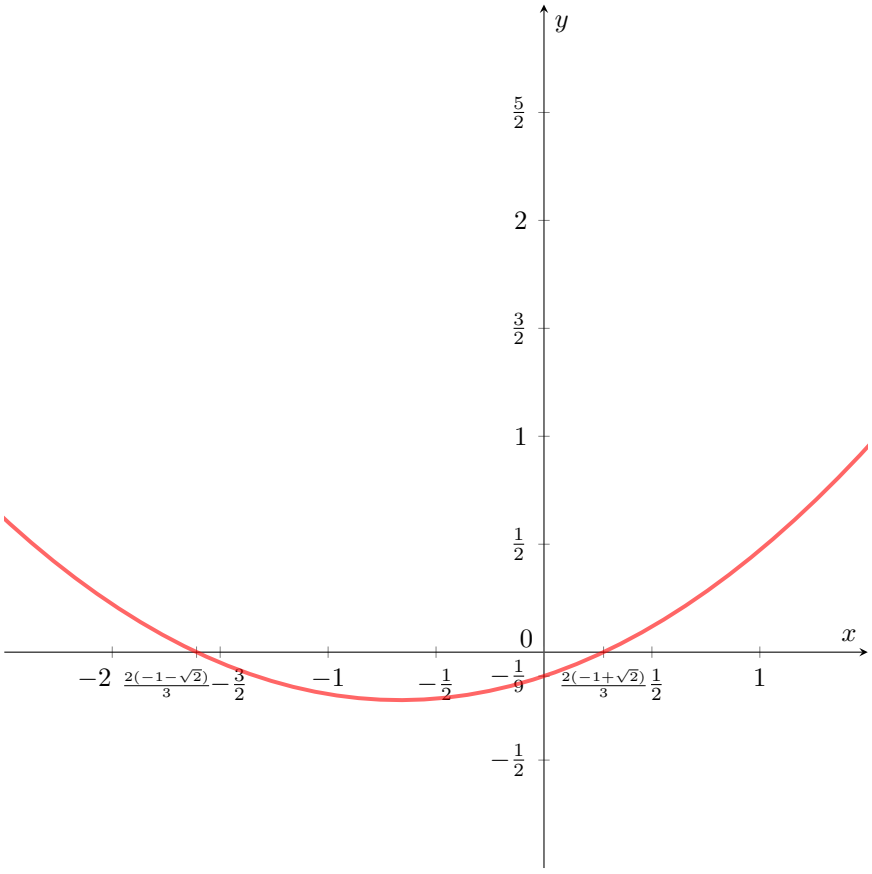
3) $x = -\dfrac{117}{31}$

4) $x \in \left(-\infty, -\frac{8}{3}\right\rangle \cup \left(-\frac{5}{3}, \infty\right)$

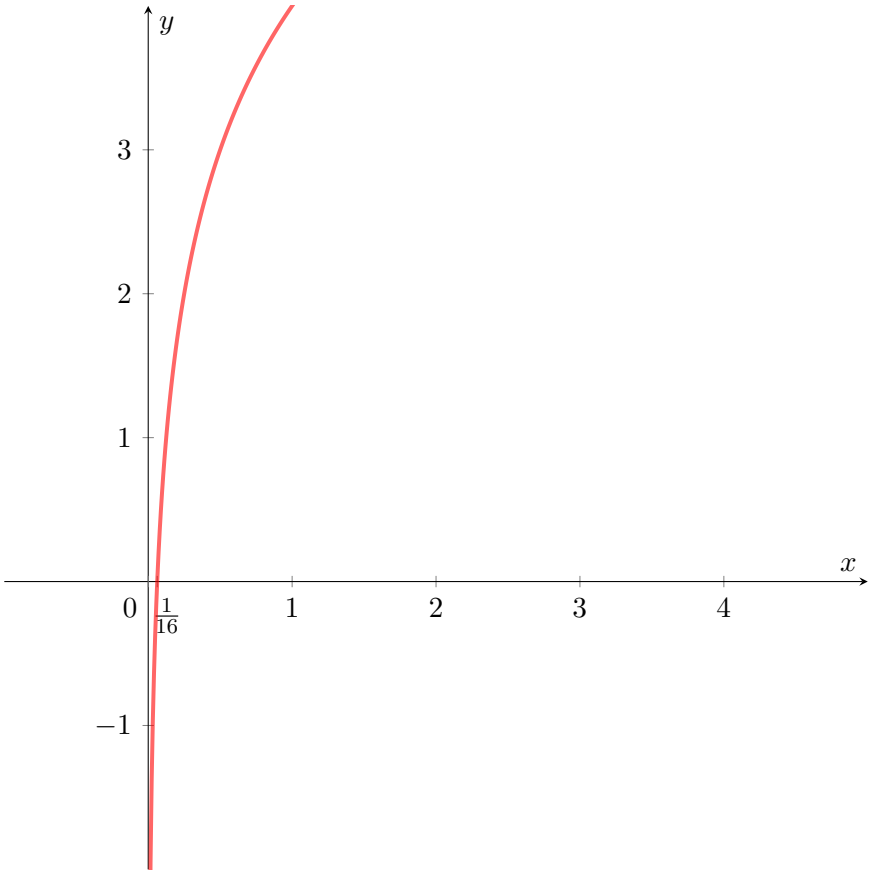
5) $x = \dfrac{153}{14}$, $y = -\dfrac{445}{28}$

6) $\mathrm{D}_f = (0, \infty)$

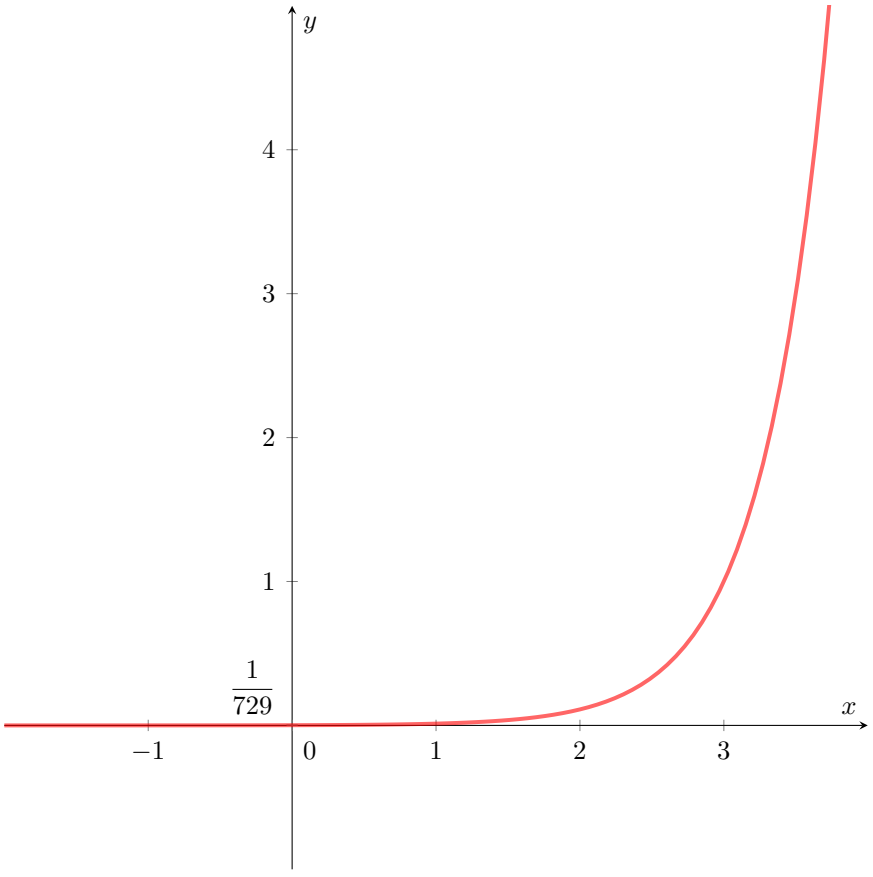
7) $y = \frac{1}{4}x^2 + \frac{1}{3}x - \frac{1}{9}$



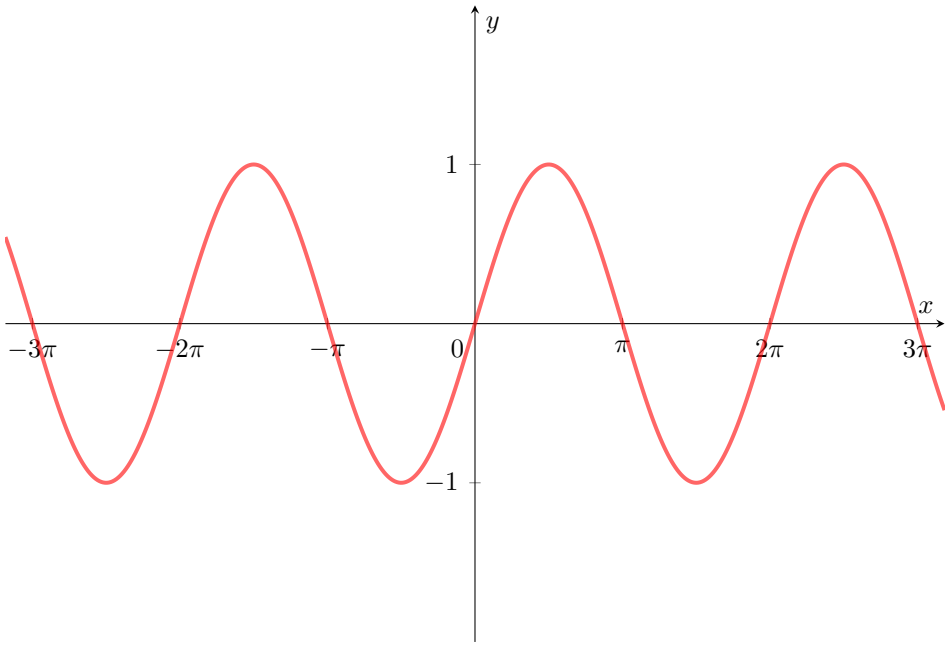
8) $y = \log_2 x + 4$



9) $y = 3^{2x-6}$



10) $y = \cos\left(x + \frac{3\pi}{2}\right)$



Test 37

1) $-\dfrac{1}{42}$

2) $-\dfrac{2}{x\,(x+1)}$, $x \neq 0$, $x \neq \pm 1$

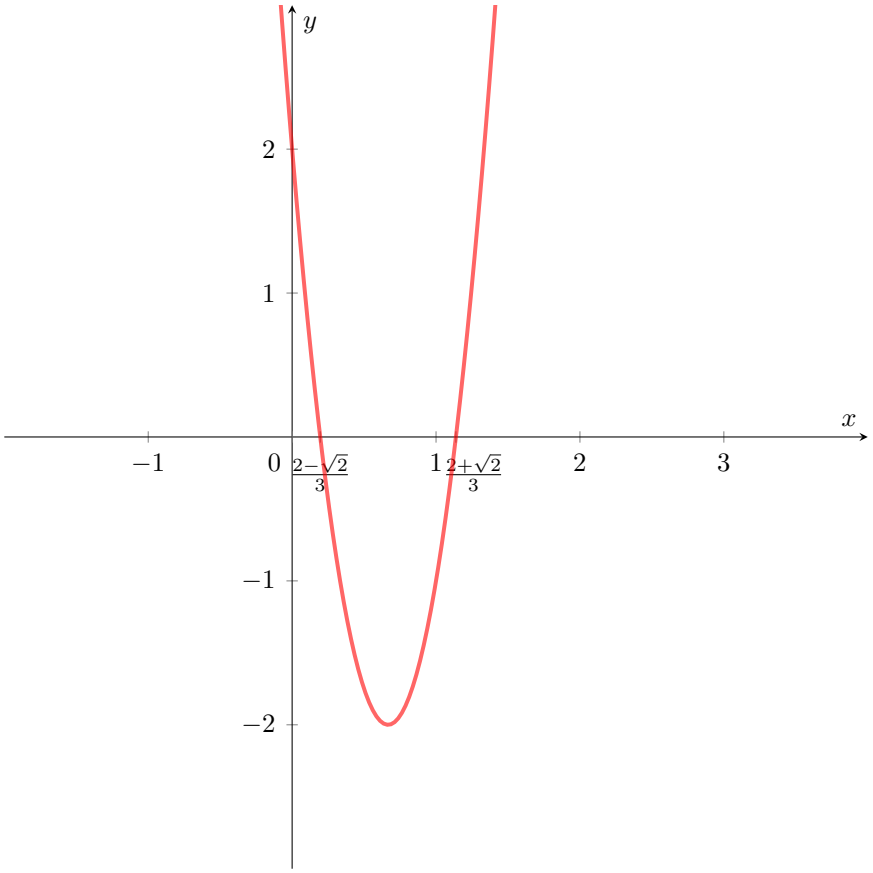
3) nemá řešení

4) $x \in \left(-\infty, -\frac{3}{2}\right) \cup \left(-\frac{2}{3}, \infty\right)$

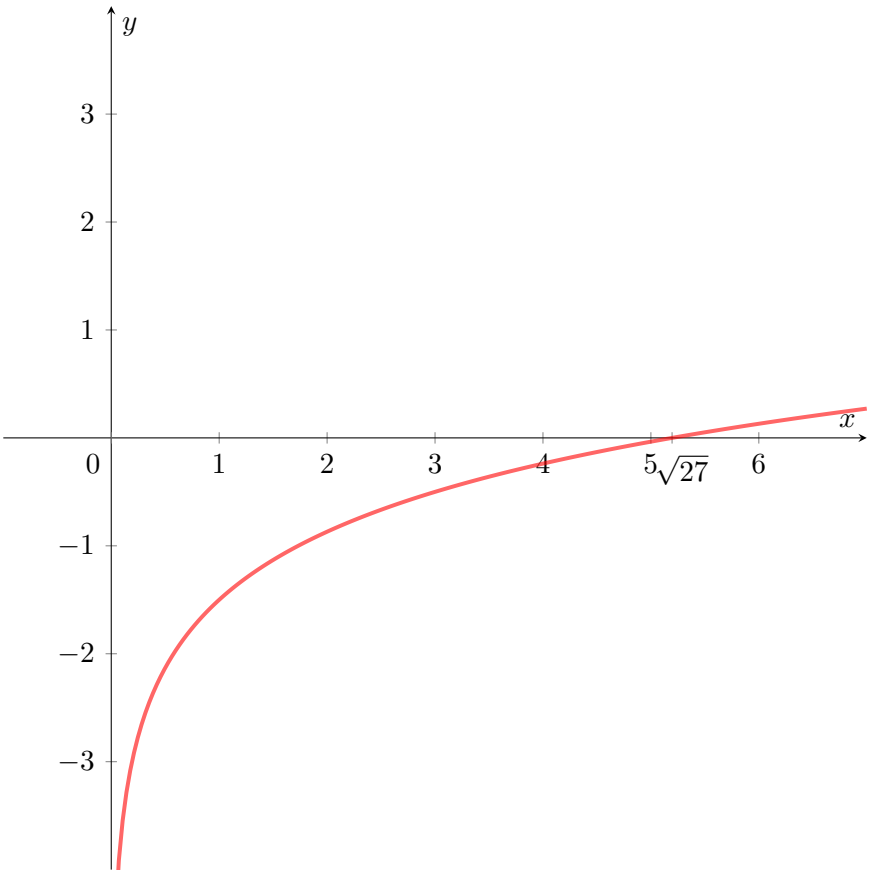
5) $x = 31$, $y = -46$

6) $\mathrm{D}_f = \langle 1, \infty)$

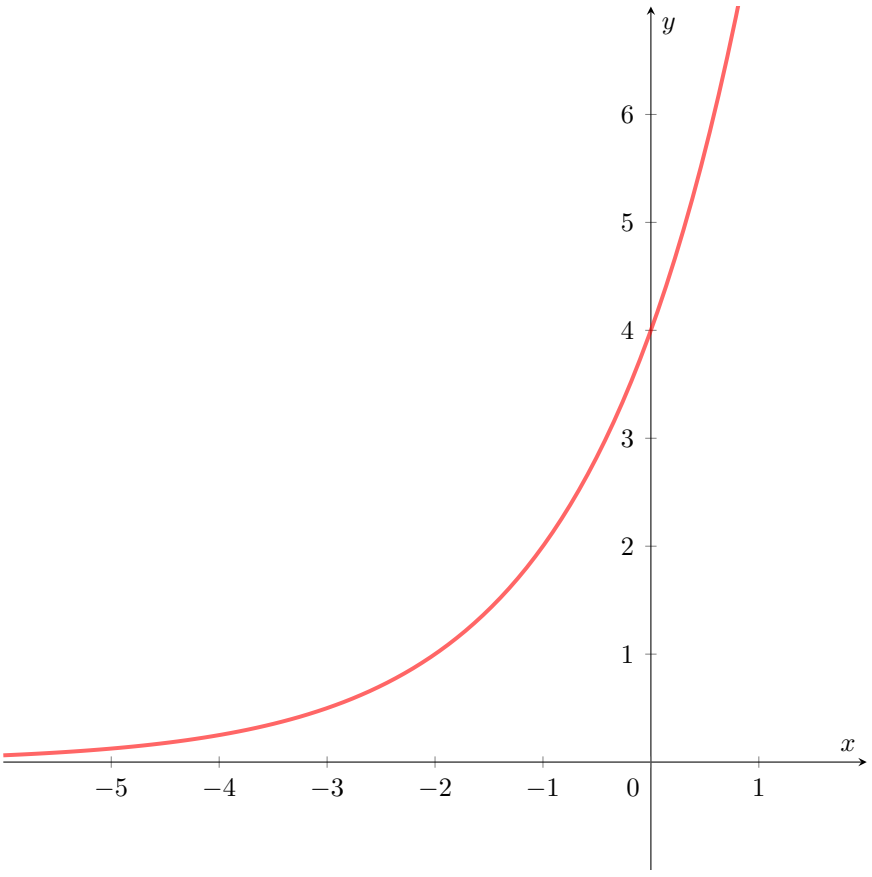
7) $y = 9x^2 - 12x + 2$



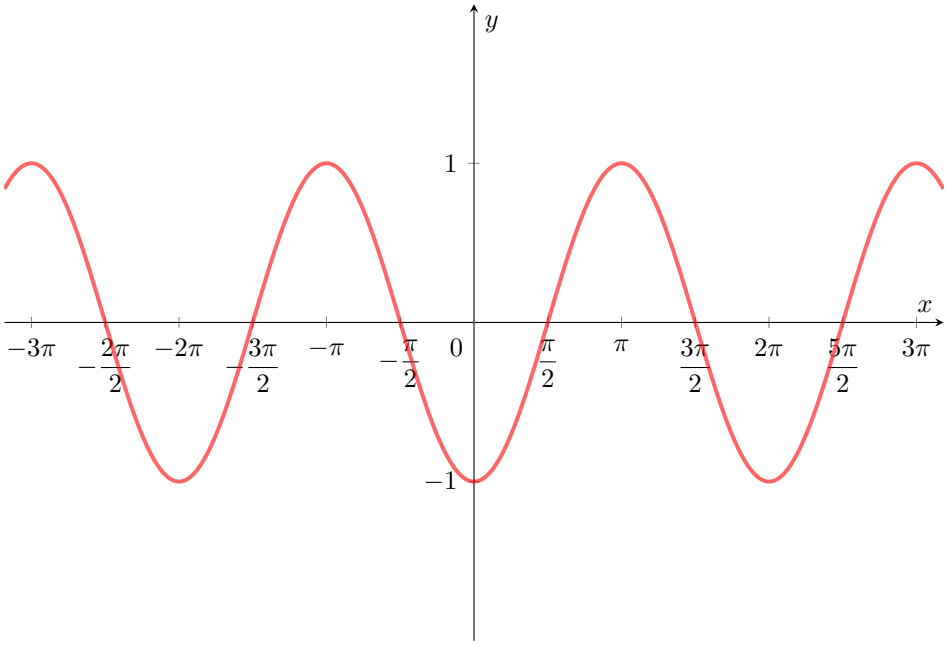
8) $y = \log_3 x - \frac{3}{2}$



9) $y = 4 \cdot 2^x$



10) $y = \cos(\pi - x)$



Test 38

1) $\dfrac{1}{36}$

2) $\dfrac{x^2+2x+4}{x\,(2-x)}$, $x \neq 0$, $x \neq 2$

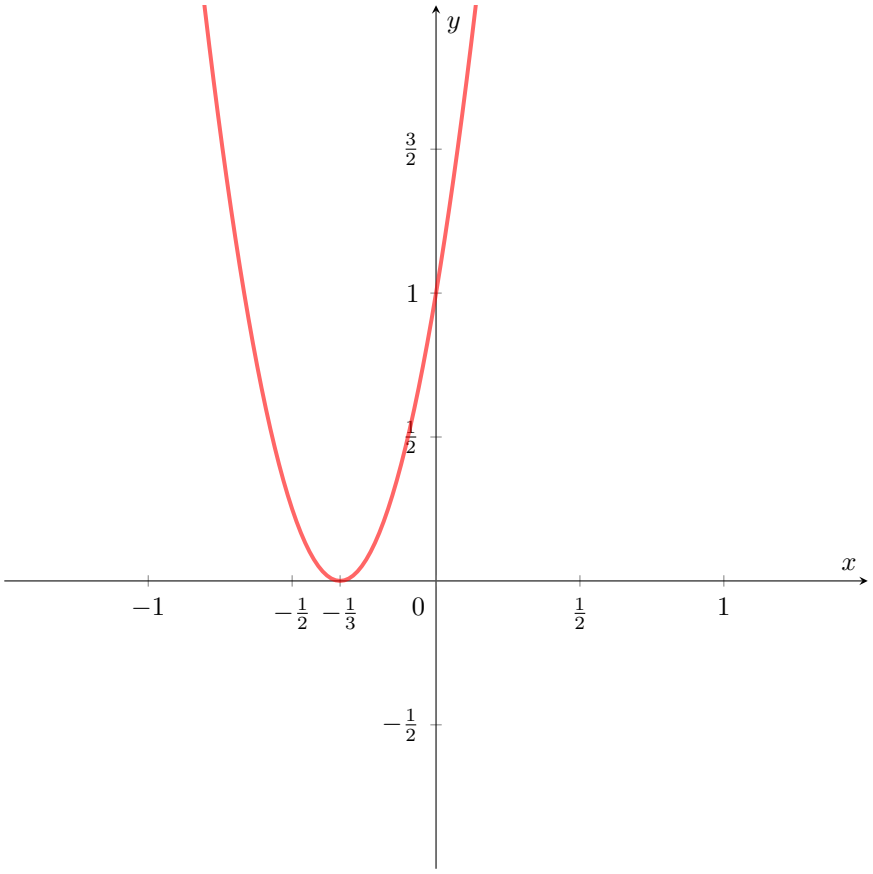
3) $x = -\dfrac{26}{3}$

4) $x \in \left(-\infty, \frac{1}{2}\right) \cup (2, \infty)$

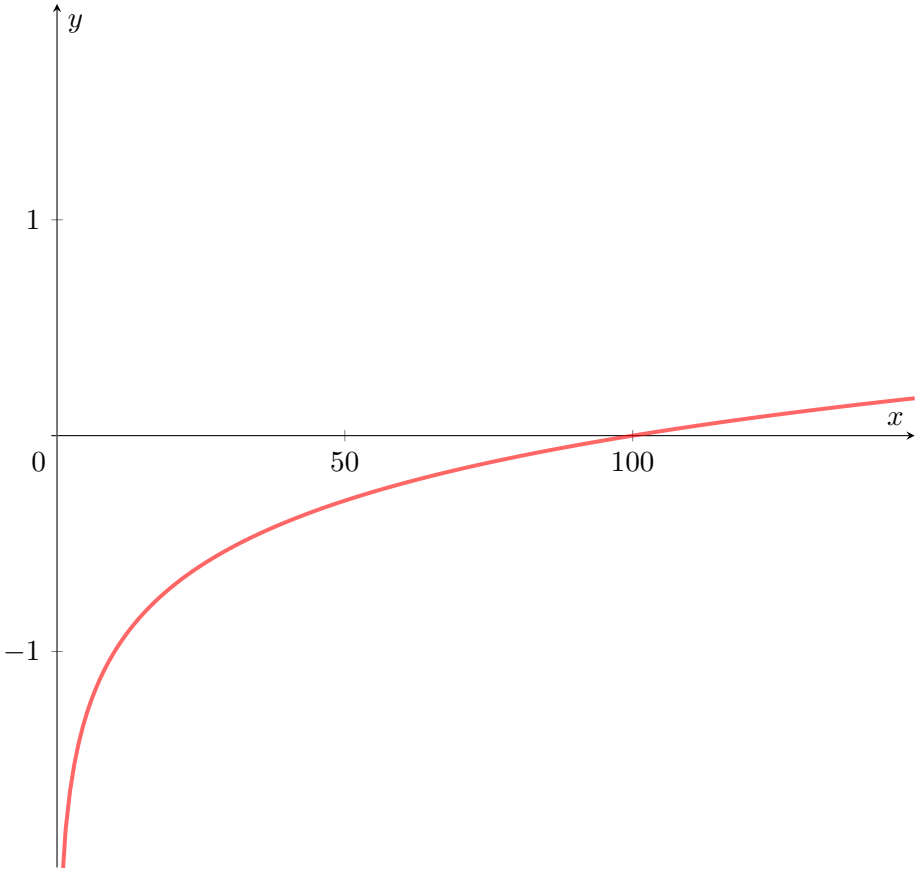
5) $x = 240$, $y = 360$

6) $\mathrm{D}_f = (0,1) \cup (1,\infty)$

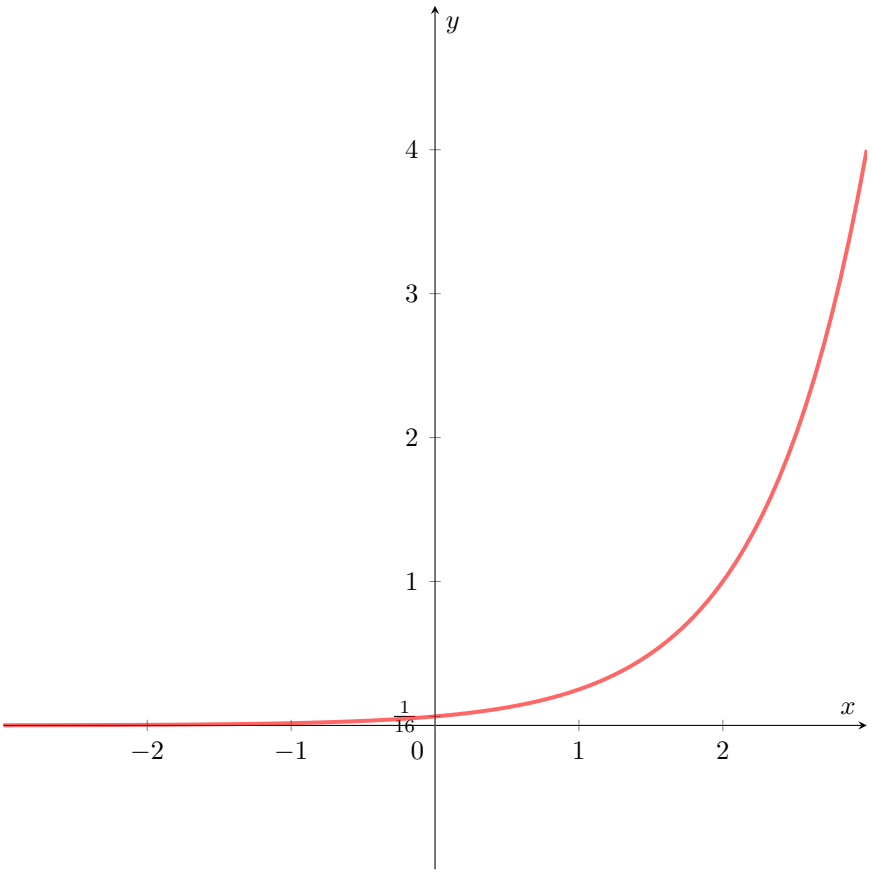
7) $y = 9x^2 + 6x + 1$



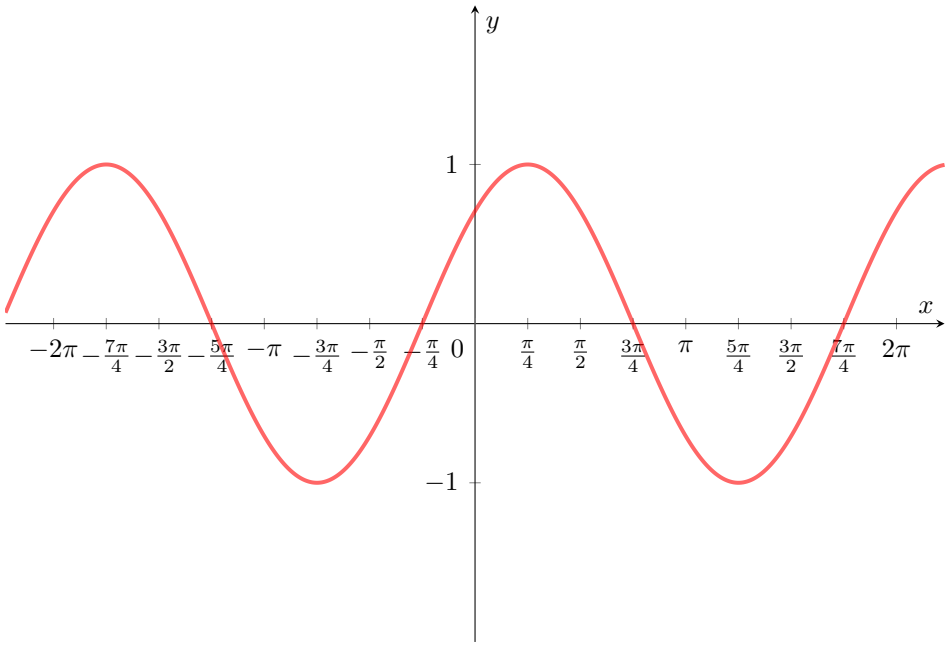
8) $y = \log x - 2$



9) $y = 2^{2x-4}$



10) $y = \cos\left(x - \frac{\pi}{4}\right)$



Test 39

1) 1024

2) $\frac{x^3-8}{2}$, $x \neq 2$

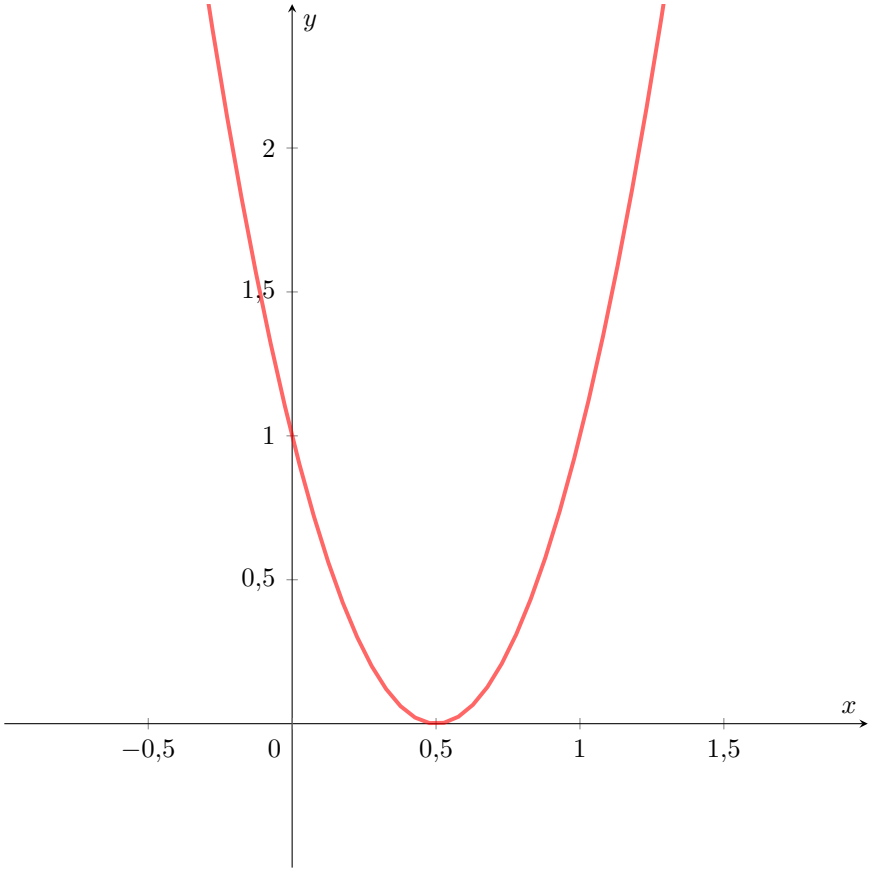
3) $x = -\frac{14}{3}$

4) $x \in \left(-\infty, -\frac{3}{2}\right\rangle \cup \left(-\frac{2}{3}, \infty\right)$

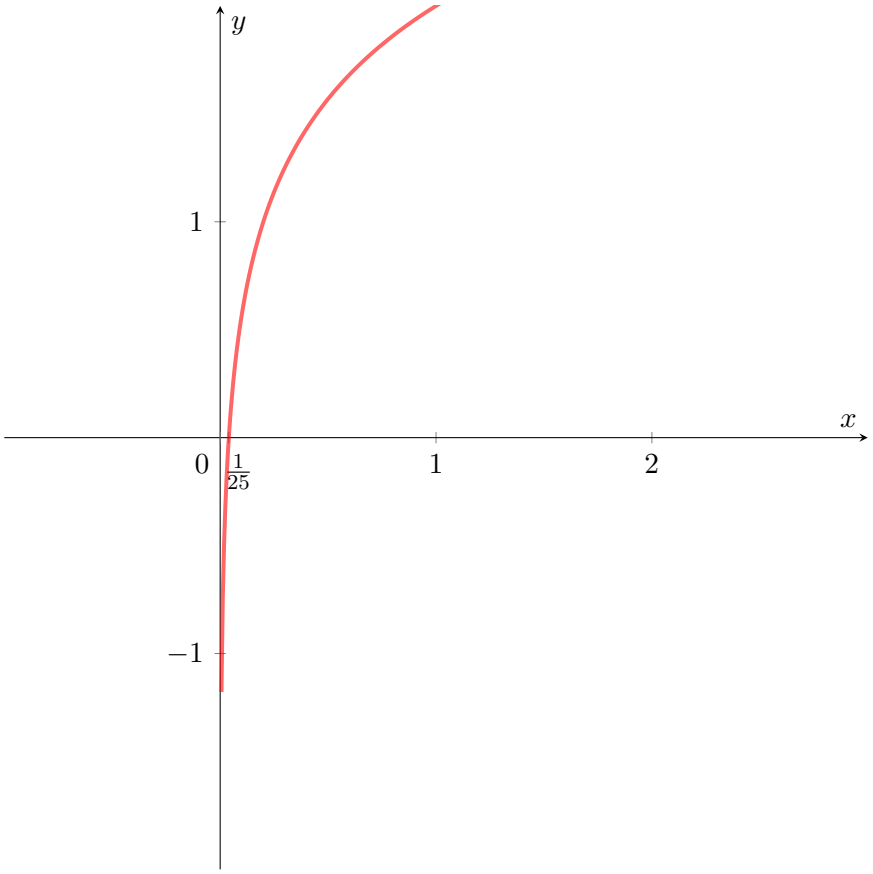
5) $x_1 = 3$, $y_1 = 2$
$x_2 = -\frac{11}{10}$, $y_2 = -\frac{359}{210}$

6) $\mathrm{D}_f = (-1, \infty)$

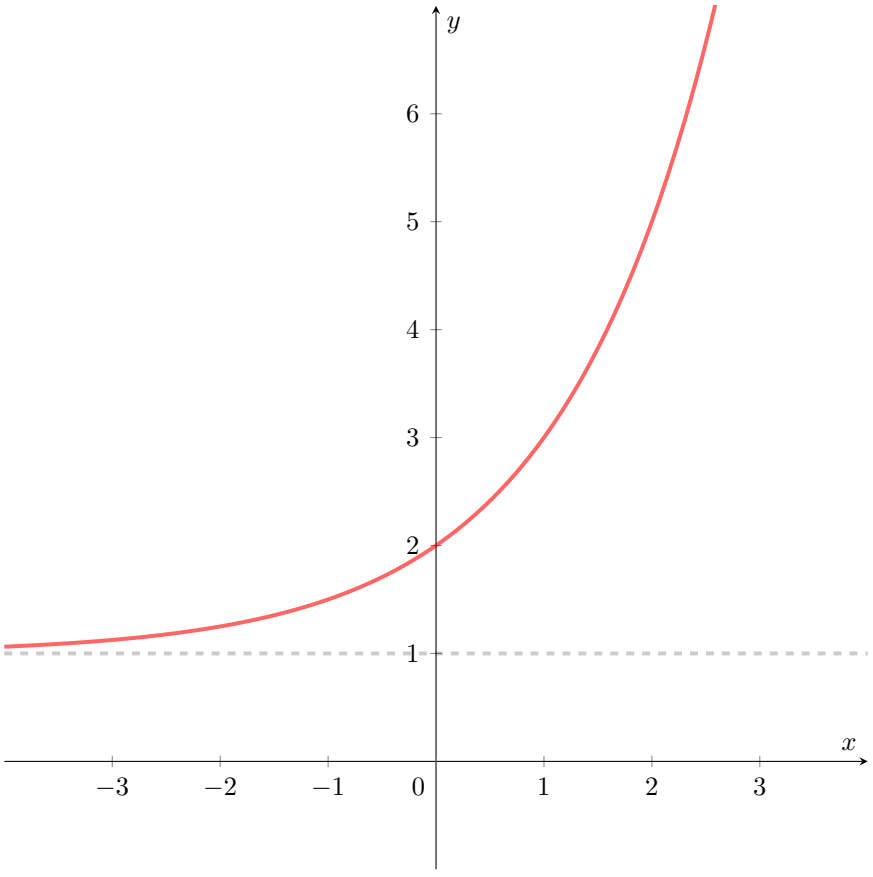
7) $y = 4x^2 - 4x + 1$



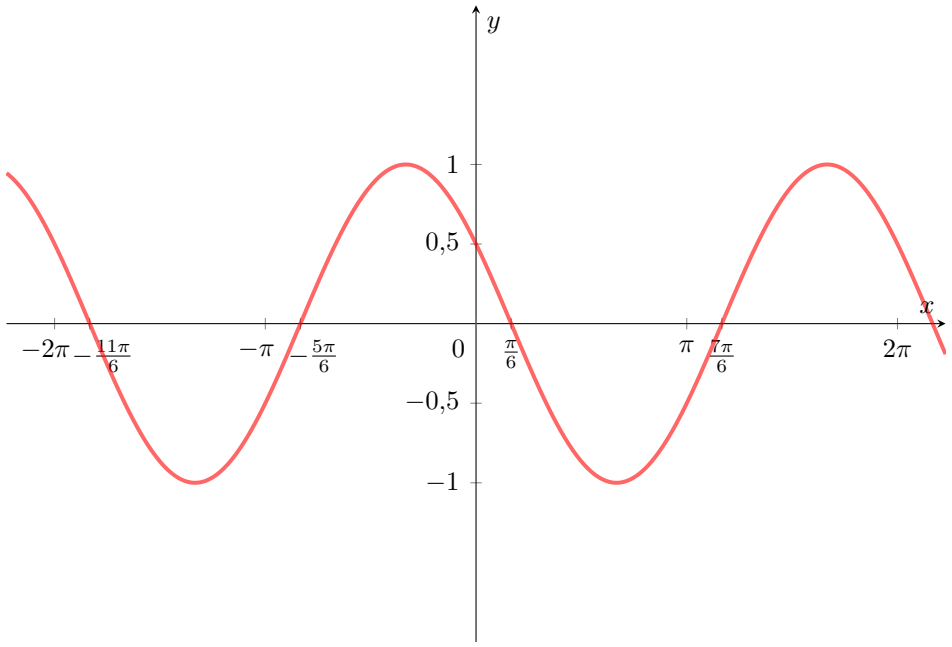
8) $y = \log_5 x + 2$



9) $y = 2^x + 1$



10) $y = \cos\left(x + \frac{\pi}{3}\right)$



Test 40

1) 1

2) $\dfrac{x^2+4}{4}$, pro všechna $x \in \mathbb{R}$

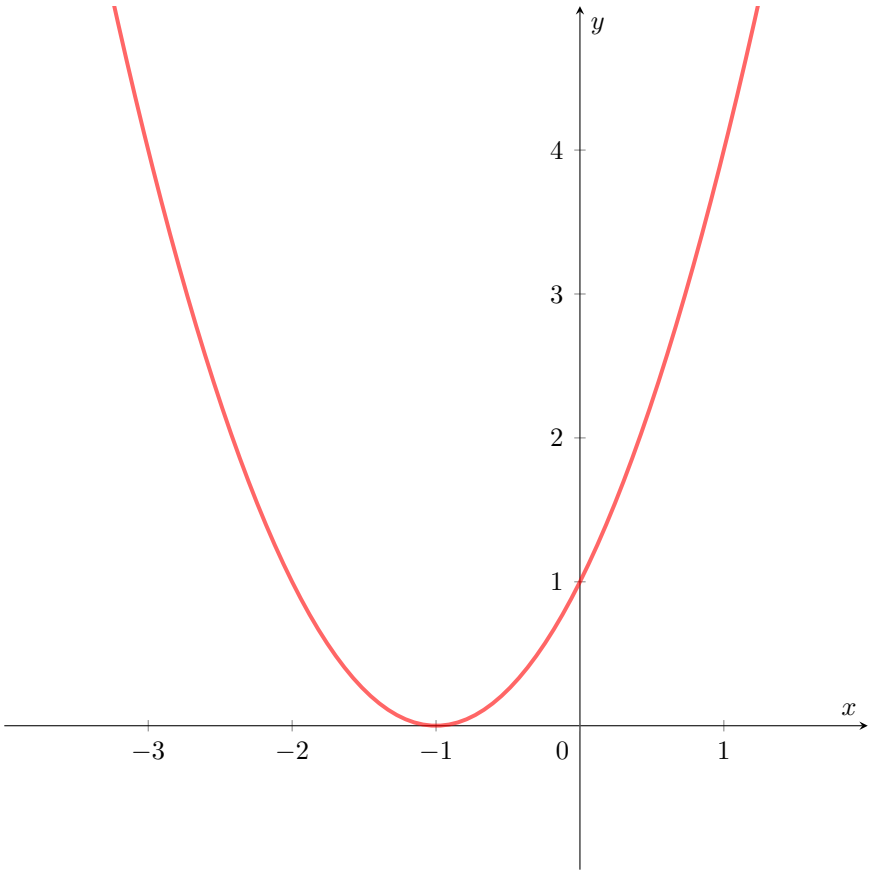
3) $x = \frac{113}{30}$

4) $x \in \left(-\infty, \frac{3}{5}\right\rangle \cup \left(\frac{3}{2}, \infty\right)$

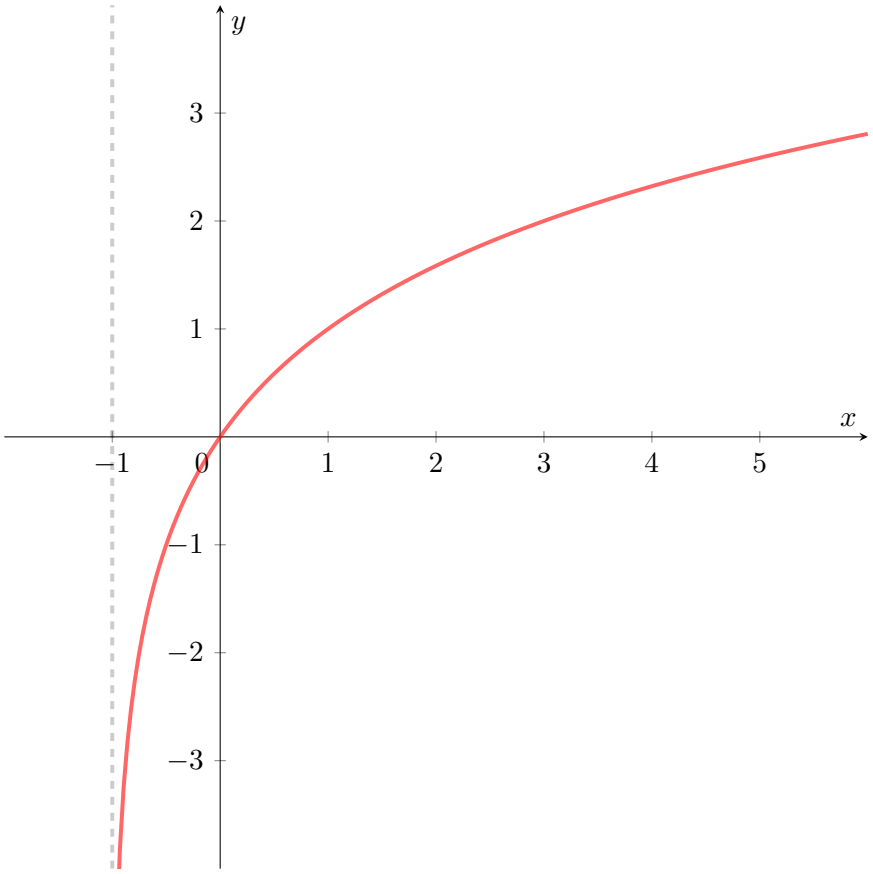
5) $x = t$, $y = 5 + t$, $t \in \mathbb{R}$

6) $\mathrm{D}_f = (0,1) \cup (1,\infty)$

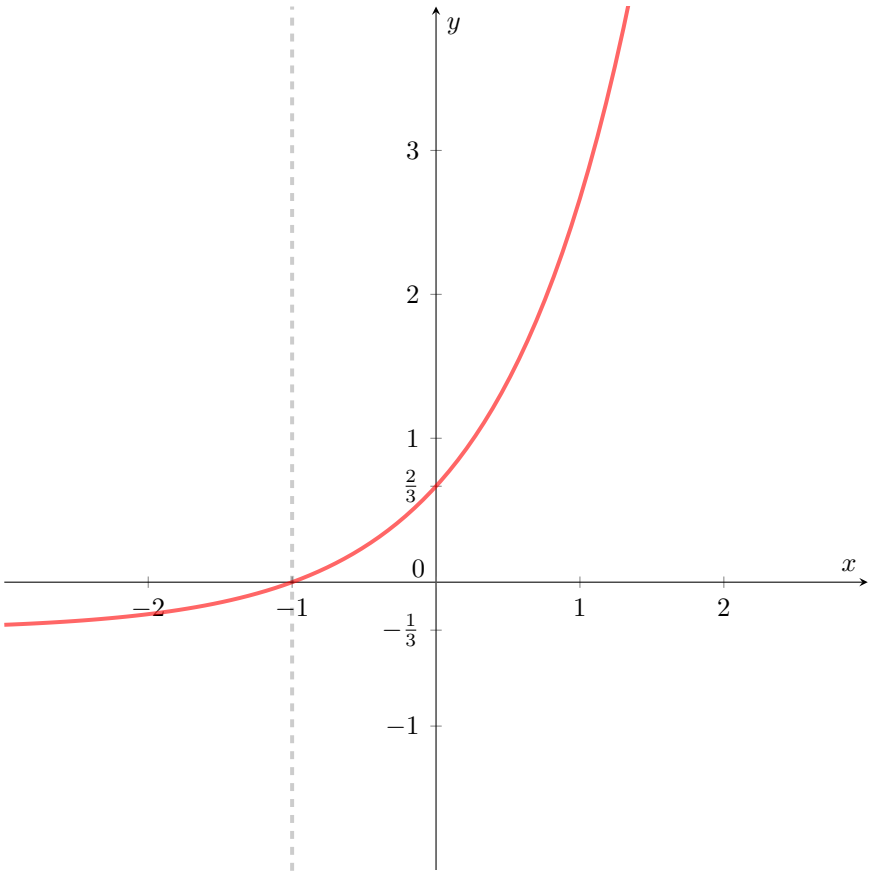
7) $y = x^2 + 2x + 1$



8) $y = \log_2(x+1)$



9) $y = 3^x - \frac{1}{3}$



10) $y = \cos\left(x - \frac{\pi}{2}\right)$