

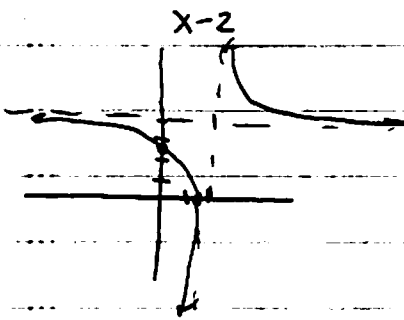
$$f(x) = \frac{3}{x-2} + 4$$

$$4 = \frac{3}{x-2}$$

$$4x - 8 = 3$$

$$-4x = -5$$

$$x = 5/4$$



$$d: \mathbb{R}; x \neq 2$$

$$r: \mathbb{R}; y \neq 4$$

cont: NO
infinite
discontinuity

int inc: \emptyset

int dec: $(-\infty, 2) \cup (2, \infty)$

sum pt: $(2, 4)$

elo/v: Neither

bounded: None

L. max: None

gl. max: None

l. min: None

g. m. n. None

ae: $y=4$ $x=2$

lim $f(x) = 4$

$x \rightarrow -\infty$

lim $f(x) = 4$

$x \rightarrow \infty$

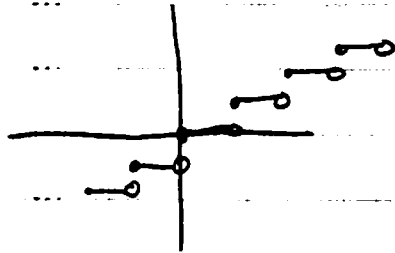
cc \uparrow $(2, \infty)$

cc \downarrow $(-\infty, 2)$

zeros: $(5/4, 0)$

y int $(0, 5/2)$

$$f(x) = \text{int } x$$



$$d: \mathbb{R}$$

$$r: \mathbb{Z}$$

cont: NO
Jump

int inc: \emptyset

int dec: \emptyset

sum: odd

elo/v: odd

bounded: none

Lmax: infinite

gl. max: None

l. min: infinite

ae: None

lim $f(x) = -\infty$

lim $f(x) = \infty$

cc \uparrow Never

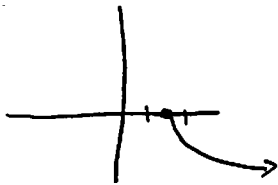
cc \downarrow Never

zeros $(0, 1)$

y int $(0, 0)$

$$f(x) = -\sqrt{2x-3}$$

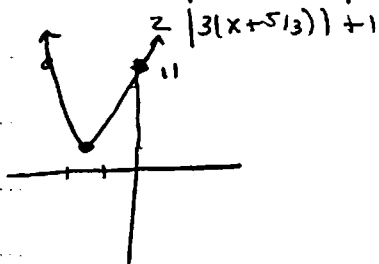
$$\begin{aligned} 2x-3 &\geq 0 \\ 2x &\geq 3 \\ x &\geq \frac{3}{2} \end{aligned}$$



$d: x \geq 3/2$
 $R: (-\infty, 0]$
 Cont: yes
 int. inc: \emptyset
 int. dec: $(3/2, \infty)$
 sym: none
 e/o/N: neither
 bounded above
 Local max: None

global Max: 0 @ $x = 3/2$
 local min: none
 global min: None
 ae: none
 $\lim_{x \rightarrow -\infty} f(x) = \text{DNE}$
 $\lim_{x \rightarrow \infty} f(x) = -\infty$
 CC $\uparrow (3/2, \infty)$
 CC \downarrow None
 zeros $(3/2, 0)$
 yint: none

$$f(x) = 2|3x+5|+1$$

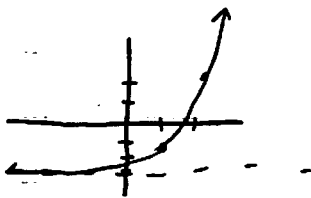


$d: \mathbb{R}$
 $r: [1, \infty)$
 cont: yes
 inc: $(-5/3, \infty)$
 indec: $(-\infty, -5/3)$
 Sym: $x = -5/3$
 e/o/N: None
 bounded: below
 Local max: None

global Max: None
 local min: 1 @ $x = -5/3$
 global min: 1 @ $x = -5/3$
 ae: none
 $\lim_{x \rightarrow -\infty} f(x) = \infty$
 $\lim_{x \rightarrow \infty} f(x) = \infty$
 CC \uparrow None
 CC \downarrow None
 zeros: none
 yint: $(0, 11)$

$$f(x) = 2e^{x-1} - 3$$

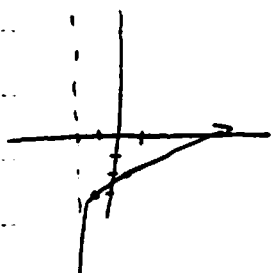
$$\begin{aligned} x/f(x) \\ 1/-1 \\ 2/2+ \end{aligned}$$



$d: \mathbb{R}$
 $r: [-3, \infty)$
 cont: yes
 int. inc: \mathbb{R}
 int. dec: None
 Sym: None
 e/o/N: None
 bounded Below
 Local max: None

global Max: None
 local min: None
 global min: None
 ae: $y = -3$
 $\lim_{x \rightarrow -\infty} f(x) = -3$
 $\lim_{x \rightarrow \infty} f(x) = \infty$
 CC $\uparrow (-\infty, \infty)$
 CC \downarrow \emptyset
 zeros $(\ln(3/2)+1, 0)$
 yint $(0, \frac{2}{e}-3)$

$$f(x) = \ln(x+2) - 3$$

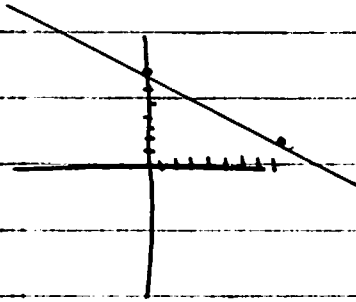


$d: x > -2$
 $r: \mathbb{R}$
 cont: yes
 int. inc: $x > -2$
 indec: \emptyset
 Sym: None
 e/o/N: Neither
 bound: none
 L max: none

gl. Max: none
 lo. min: none
 gl. min: None
 ae: $x = -2$
 $\lim_{x \rightarrow -\infty} f(x) = \text{DNE}$
 $\lim_{x \rightarrow \infty} f(x) = \infty$
 CC: None
 CC \downarrow : $(-2, \infty)$
 zeros $(e^3-2, 0)$
 yint: $(0, \ln 2 - 3)$

$$\begin{aligned} e^{y+3} \\ -2=x \\ \frac{y}{-1} \\ -2 \\ e^3 \end{aligned}$$

$$y = -5/8x + 7$$



d: \mathbb{R}
r: \mathbb{R}

cont: yes

int, inc: \emptyset

int dec: $(-\infty, \infty)$

Sym: None

e/o/N: Neither

bound?: None

Loc. Max: None

global Max: None

local Min: None

global min: None

a.e.: None

$$\lim_{x \rightarrow \infty} f(x) = -\infty$$

$$\lim_{x \rightarrow -\infty} f(x) = \infty$$

cc \uparrow : None

cc \downarrow : None

$$Zeros: (\frac{56}{5}, 0)$$

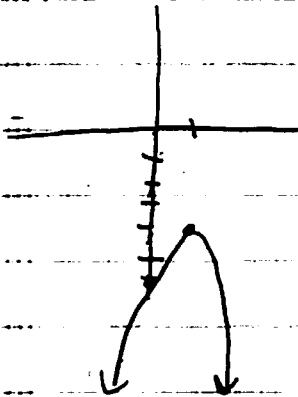
$$y_{int}: (0, 7)$$

$$-7 = -5/8x$$

$$-7 \cdot \frac{8}{5} = x$$

$$f(x) = -2(x-1)^2 - 4$$

$$-2(-1)^2 - 4$$



d: \mathbb{R}

r: $(-\infty, 4]$

cont: yes

int inc: $(-\infty, 1)$

int dec: $(1, \infty)$

Sym: $x=1$

e/o/N: Neither

bounded above

Local Max $-4 @ x=1$

global max: $-4 @ x=1$

L. min = \emptyset

glo. min = \emptyset

a.e.: none

$$\lim_{x \rightarrow -\infty} f(x) = -\infty$$

$$\lim_{x \rightarrow \infty} f(x) = -\infty$$

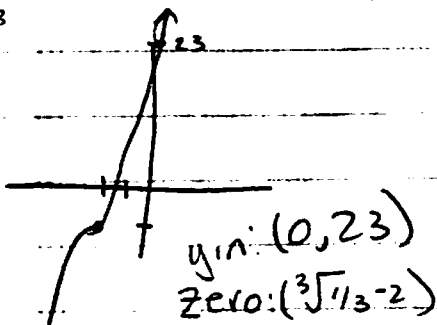
cc \uparrow : \emptyset

cc \downarrow : $(-\infty, \infty)$

Zeros: None

$$y_{int} (0, -6)$$

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



d: \mathbb{R}

r: \mathbb{R}

cont: yes

int inc: $(-\infty, \infty)$

int dec: \emptyset

Sym: p: $(-2, -1)$

e/o/N: Neither

bound: None

L. Max: None

g. max: None

L. min: None

g. Max: None

a.e. None

$$\lim_{x \rightarrow \infty} f(x) = \infty$$

$$\lim_{x \rightarrow -\infty} f(x) = -\infty$$

cc \uparrow : $(-2, \infty)$

cc \downarrow : $(-\infty, -2)$

$$\frac{1}{3} = (x+2)^3$$

$$\sqrt[3]{\frac{1}{3}} - 2 = x$$

$$y_{int}: (0, 23)$$

$$Zero: (\sqrt[3]{1/3} - 2)$$