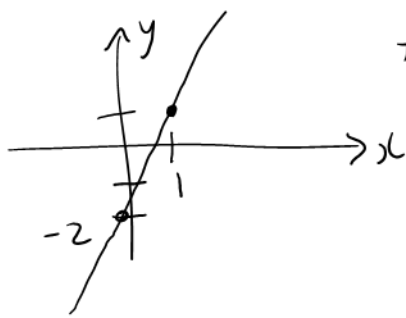


23.1

(5)



$$f(x) = 3x - 2$$

$f(x)$ is continuous for all x

(7)

Google "Wolfram Alpha"

Type: plot $y = 2/(x^2 - x)$



$f(x)$ is continuous for $x \neq 0, 1$

(11) $f(x)$ is continuous for all x

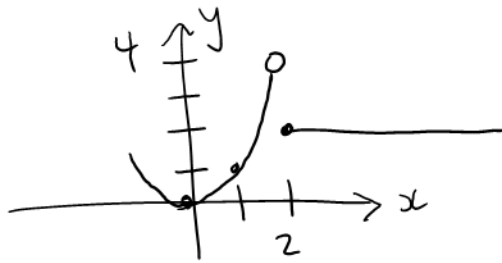
(13) $f(x)$ is continuous for $x \neq 2$

(15) $f(x)$ is continuous for $x \neq 2$

(17) $f(2) = -1$

$\lim_{x \rightarrow 2} f(x)$ does not exist

(21)



$f(x)$ is continuous for $x \neq 2$

(25)

x	0.9	0.99	0.999	1.001	1.01	1.1
$\frac{x^3 - x}{x - 1}$	1.71	1.97	2.00	2.00	2.03	2.31

$$\lim_{x \rightarrow 1} \frac{x^3 - x}{x - 1} = 2$$

(27)

x	1.9	1.99	1.999	2.001	2.01	2.1
$\frac{2 - \sqrt{x+2}}{x-2}$	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25

$$\lim_{x \rightarrow 2} \frac{2 - \sqrt{x+2}}{x-2} = -0.25$$

(29)

x	10	100	1000	10000
$\frac{2x+1}{5x-3}$	0.45	0.40	0.40	0.40

$$\lim_{x \rightarrow \infty} \frac{2x+1}{5x-3} = 0.4$$

$$\begin{aligned} \textcircled{31} \quad \lim_{x \rightarrow 3} (3x - 2) \\ = 7 \end{aligned}$$

$$\begin{aligned} \textcircled{33} \quad \lim_{x \rightarrow 0} \frac{x^2 + x}{x} \\ = \lim_{x \rightarrow 0} \frac{x(x+1)}{x} \\ = \lim_{x \rightarrow 0} \frac{x+1}{1} \\ = 1 \end{aligned}$$

$$\begin{aligned} \textcircled{35} \quad \lim_{x \rightarrow -1} \frac{x^2 - 1}{3x + 3} \\ = \lim_{x \rightarrow -1} \frac{(x+1)(x-1)}{3(x+1)} \\ = \lim_{x \rightarrow -1} \frac{x-1}{3} \\ = \frac{-2}{3} \end{aligned}$$