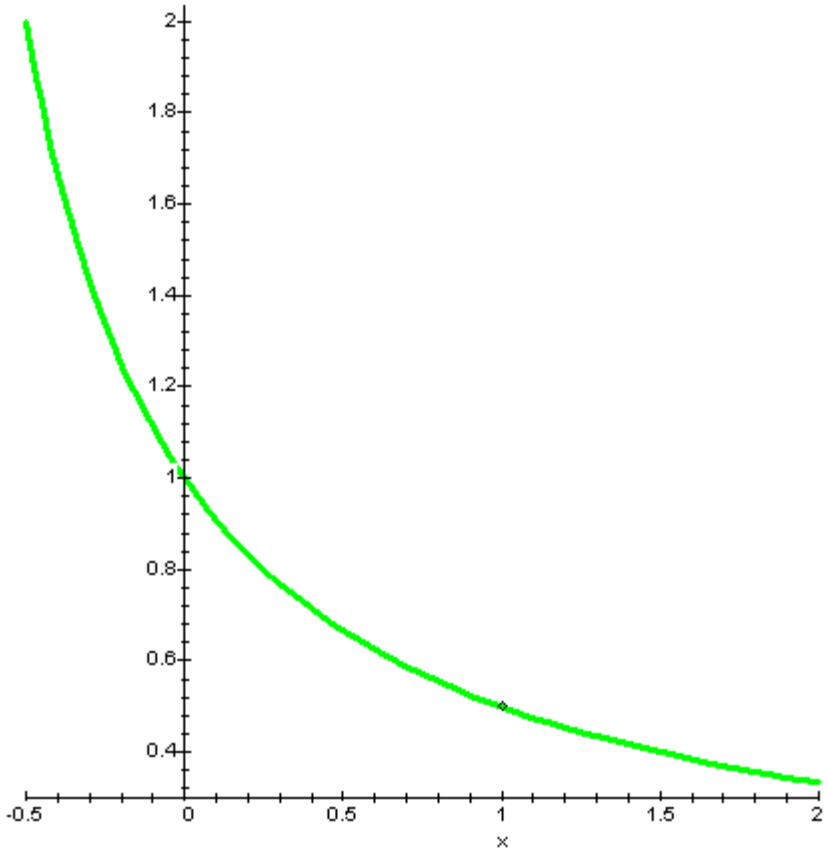
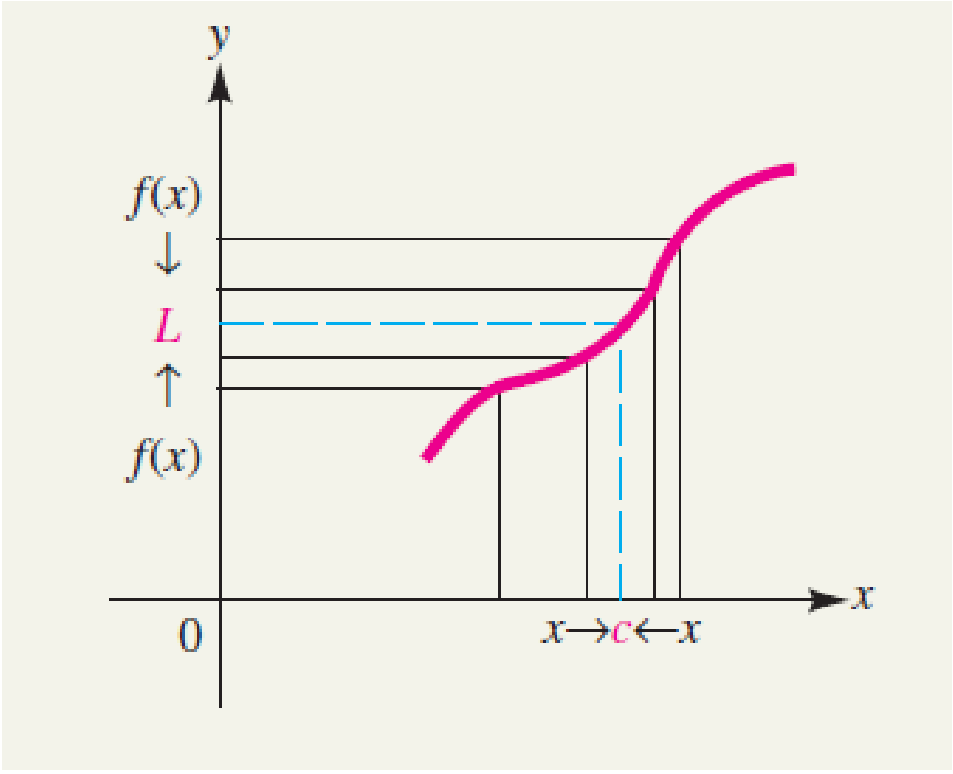
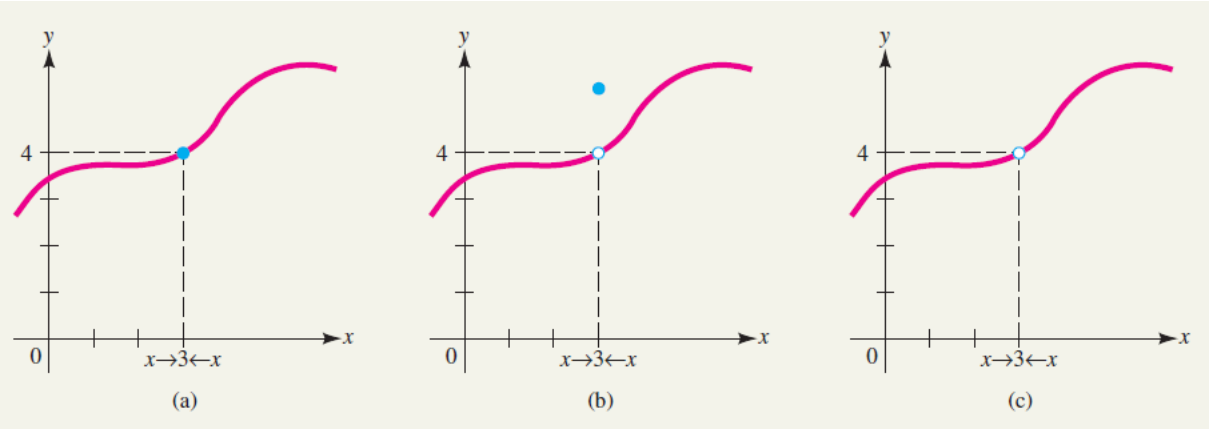
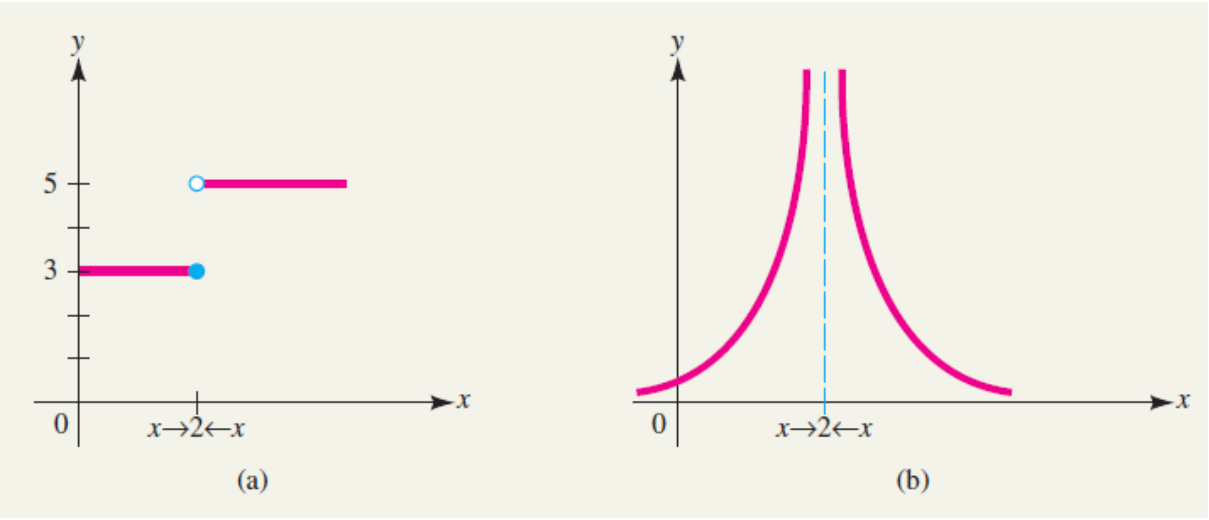

2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
-0.5
0
0.5
1
1.5
2
x

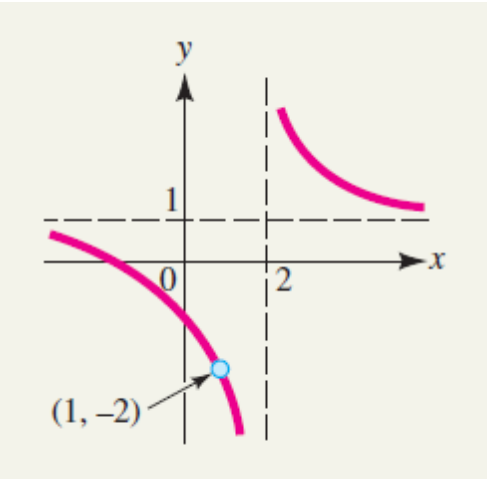

y
f(x)
L
f(x)
0
x
x → c ← x

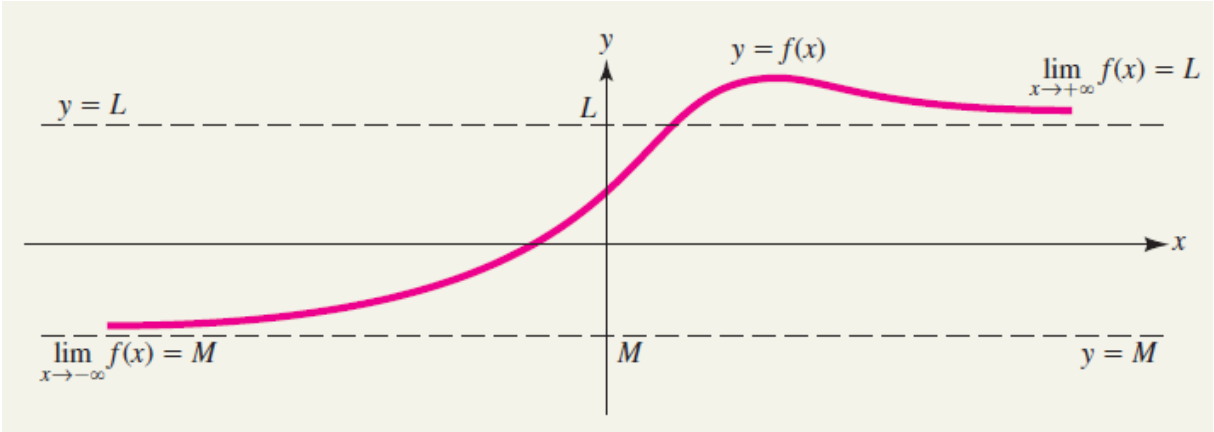




$$\lim_{x \to 1} \frac{x^2 - 1}{x^2 - 3x + 2}$$

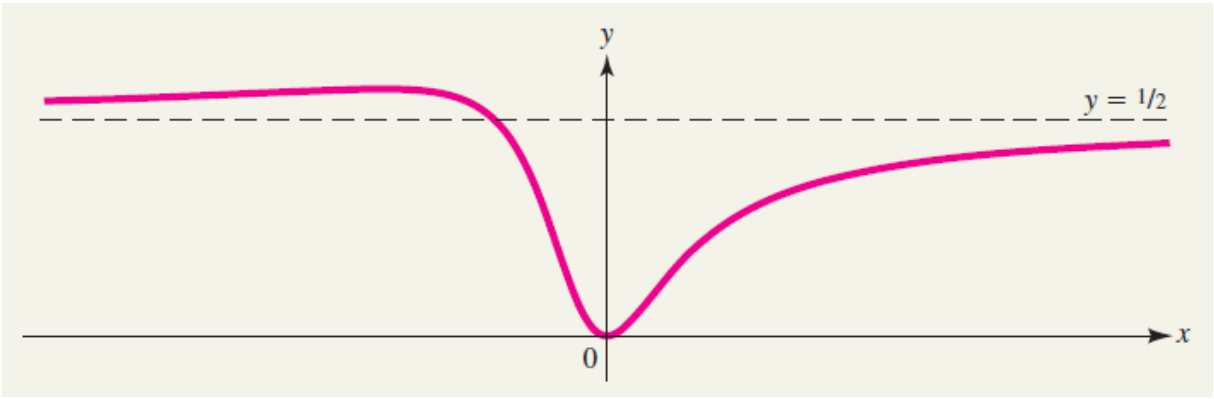
$$\frac{x^2 - 1}{x^2 - 3x + 2} = \frac{(x - 1)(x + 1)}{(x - 1)(x - 2)} = \frac{x + 1}{x - 2} \qquad x \neq 1$$



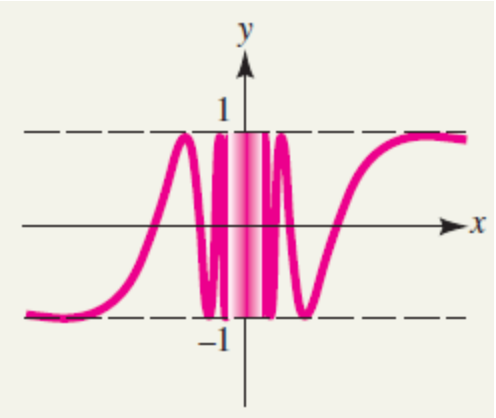


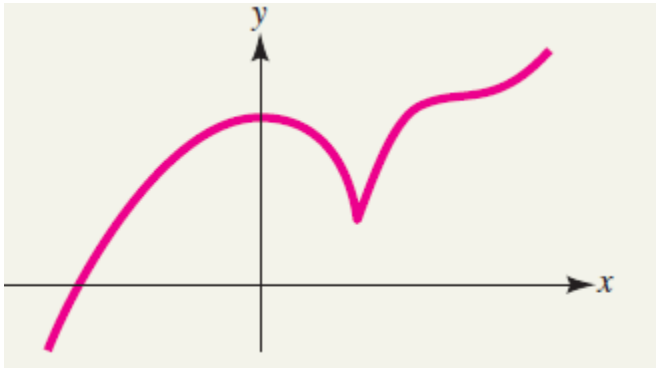
$$\lim_{x \to +\infty} \frac{x^2}{1 + x + 2x^2} \qquad f(x) = \frac{x^2}{1 + x + 2x^2}$$

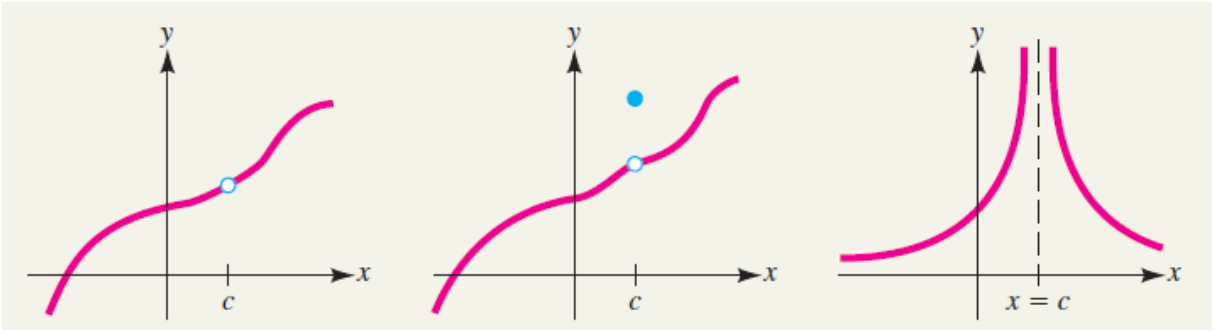
x	100	1,000	10,000	100,000
$f(x)$	0.49749	0.49975	0.49997	0.49999

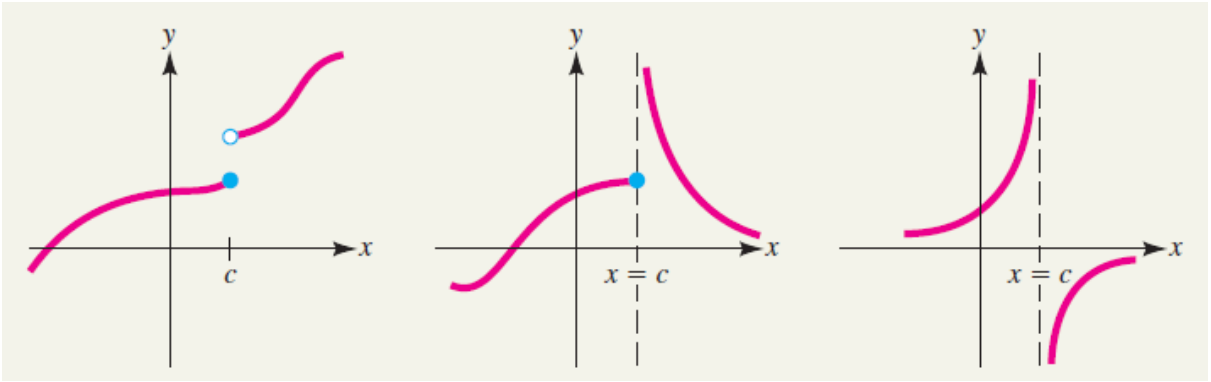


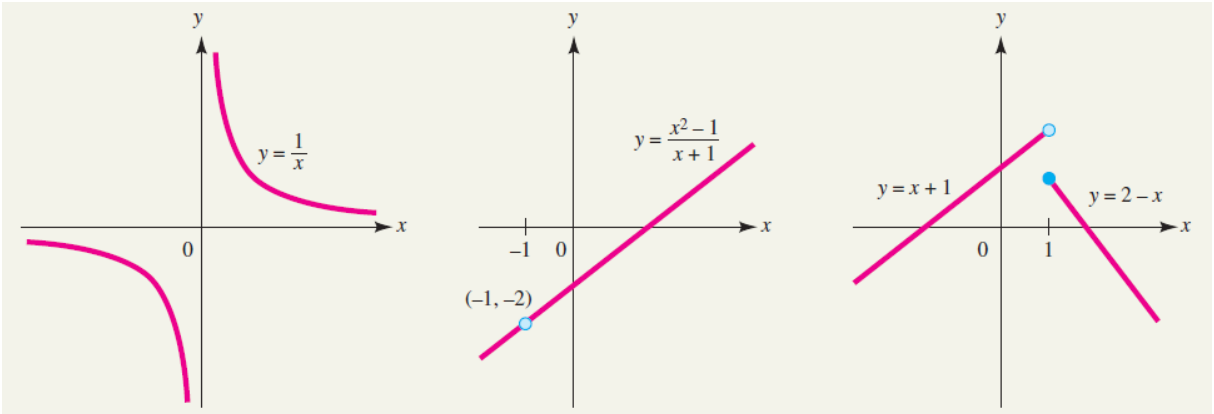
$$f(x) = \sin\left(\frac{1}{x}\right)$$




y
x


y
x
c
y
x
c
y
x
x = c


y
x
c
y
x
x = c
y
x
x = c


y
x
y = 1/x
0
y
x
y = (x² – 1)/(x + 1)
–1
0
(–1, –2)
y
x
y = x + 1
y = 2 – x
0
1